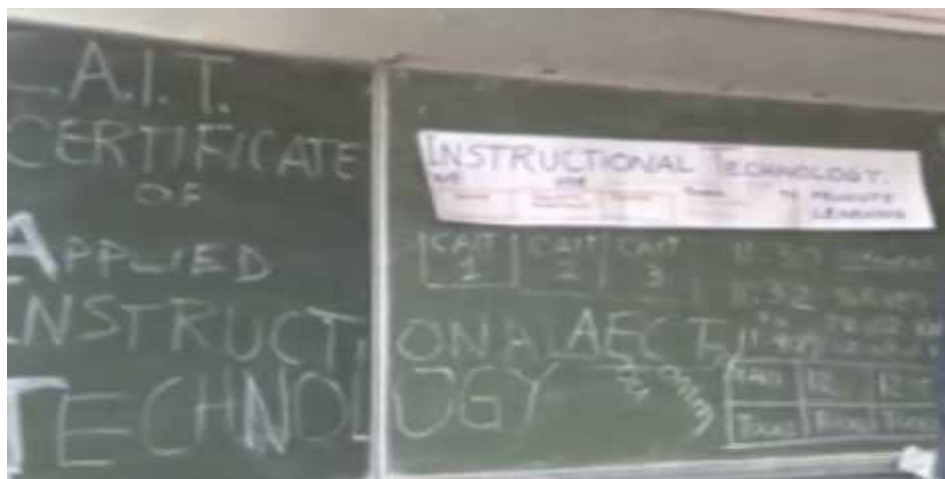


# How to Use Technology With Teaching (Away From the Internet)

# The Havana Workshop

## April 2013

Second Edition



By Steve McCrea and Mario Llorente

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ISBN-13:

Unfortunately, to most people, teaching is the giving of knowledge. *What are you going to tell the students? What is your expertise?* But teaching is really about **bringing out what's already inside people.**

Dennis Littky, MetCenter.org

This book is a workbook. Please write in this book.  
Please cut out the posters. Please hang the posters.

The final effect of publishing this book is not thousands of copies of this edition spreading through classrooms that lack broadband connection to the Internet. This book should not be measured by the number of hits that the videos get (that result from the lectures given about this book). **This book should be measured by what the “students” (participants) create.** You. **You are the measure of this book.**

The participants of this workshop will create digital portfolios and projects that could bring the methods of Dennis Littky, Dennis Yuzenas, Enrique Gonzales, Elliot Washor, Eliot Levine, Matt Blazek, Katie Gimbar (“The Flipped Classroom”) and Mario Llorente into thousands of classrooms. The posters of Richard Clark, Barak Rosenshine, Dan Pink and others could spread because of you.

The goals of this book are (1) *to get the posters in this book on the walls of classrooms* that lack the Internet connections... and (2) *to get the procedures into the minds of students*, so that the students ask their teachers for fully guided instruction. I hope that Richard E. Clark's 2005 chapter about the **“popular but misguided principles of multimedia learning”** will guide teachers.

If you think this class is about “technology in classrooms,” then we have covered only 10% of the topic. Most of our time should be discussing **“how do we change the core beliefs of our students so that they can use technology better?”** We might need to change some of our core beliefs, too.

The readings mentioned in this book should inspire the participants of this workshop to **produce procedures and lesson plans**. As Gordon Dryden hoped, these procedures and lessons will be distributed to teachers who lack many of the devices that are mentioned in this book.

**This book is for participants.** You who read these pages can bring these procedures into classrooms and ensure that students will not be

bored. **No more boring lessons.** No more bored students. **When a student daydreams or sleeps in class, a teacher probably needs retraining.** Your projects, procedures and digital projects will be part of the package that helps retrain teachers to become guides on the side.

## What if the world's 59 million teachers could use free lesson plans for their 2 billion students?

Gordon Dryden  
*The Learning Revolution* (1999)



The opportunity: Create a workshop to answer the question “How do you use technology in teaching?”

## **Technology for Teaching Workshop**

By the end of this workshop, you will be able to complete the checklist in part 2, around page 88.

## **Flipped Classroom Workshop**

If you want to focus on the Flipped Classroom, after page 69

### **Two major parts: Theory and Practice**

#### **PART 1: THEORY (ANALYSIS)**

A. Examples of Technology (make a list with your partner)

B. Principles about Using Instructional Technologies (Four “Laws”)

C. Five Questionable Principles about Multimedia Learning by Clark (2004)

D. Posters

Let's examine our intuitively appealing beliefs

(Richard E. Clark, Learning From Media, p. 216)

It's not your learning style (Dembo's paper)

Guidelines for Teachers (4 tips from Richard Clark)

Distilling Barak Rosenshine's 17 principles of instruction.

E. Creating a culture for technology

Quotes to stimulate our thoughts

F. Elements of the Flipped Classroom

What did Katie Gimbar Show Us and Tell Us?

a. read the transcript

b. watch the video

Compare what you remember.

G. EXERCISE

The typical traditional classroom

What are the elements of the traditional lesson?

Adding technology to the traditional classroom

What do you recommend?

What procedures do you recommend?

What technologies do you recommend?

## PART 2: PRACTICE (SYNTHESIS)

### WORKSHOP EXERCISES

#### Hands-on Checklist

(Build your portfolio of skills)

- a. using a tripod
- b. using a video camera
- c. the Personal Learning Plan
- d. The Folder (“My Learning Book” or “PLP Folder”)
- e. storing videos and photos
- f. displaying videos and photos
- g. building a paper portfolio
- h. building a digital portfolio (transfer the paper to a digital form)

### CLOSE

Permission Form (I'd like to collect your work to give examples in the Appendix of the Second Edition)

### Appendix

A list of essential ebooks (a form of technology)

Debunking Handbook

Dan Pink's *Flip Manifesto*

Blazek's Project and Digital Portfolio CD by Matt Blazek

Steve's CV

*Where did you learn your methods?*

Invitation

Photos through the book come from classes by my mentors, particularly Dennis Yuzenas

Photos of Dr. Abraham Fischler show “lifelong learning” with Matt Blazek.





Most people think that this is “technology in the classroom.”

### **Technology for Teaching Workshop**

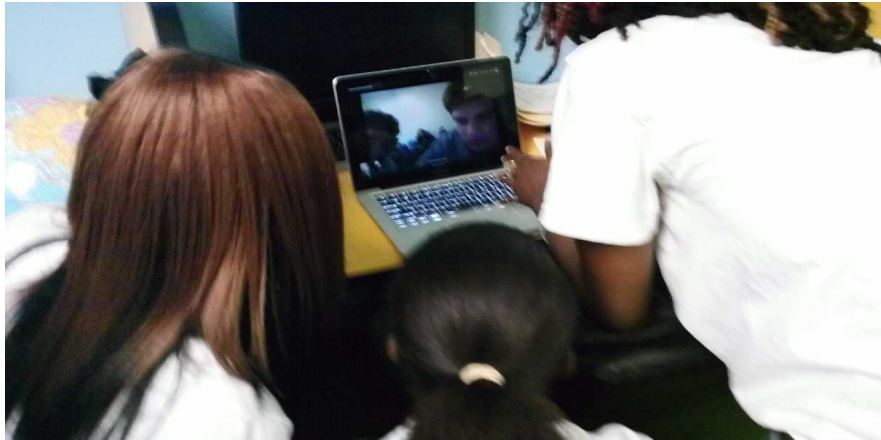
By the end of this workshop, you will be able to complete the checklist in part 2, around page 76.

### **Flipped Classroom Workshop**

If you want to focus on the Flipped Classroom, after page 56

Limit the amount of material  
students receive at one time.

Barak Rosenshine, *Principles of Instruction*, UNESCO



Oh, look! More technology in the classroom!  
Discussion between students in Florianópolis, Brazil and Fort Lauderdale



This classroom is not connected to the Internet.  
Bak Middle School of the Arts, West Palm Beach, Fla.



# Two major parts: Theory and Practice

## PART 1: THEORY (ANALYSIS)

This is a workbook about using technology.

You don't need a direct connection with the Internet to benefit from technology.

“Technology in the Classroom” for many teachers means “wifi in the classroom” and “computers for every student.”

This book is for classrooms that have access to one computer and a way to store student work.

### WRITE:

What are three ways to store information?

What technology do you need to store information?

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You can store the work of students on paper at first, but the goal is to create digital storage (the digital portfolio).

You don't need the Internet, but we look forward to learning about your work when you eventually put your portfolio on the web.



## Suggested Technology

- a) A way to show your lectures (for students to prepare before class). **“Watch.”**
- b) A way to give students space to work on projects. **“Create work.”**
- c) A way to let students know that they are responsible for their learning. **“Send messages.”**
- d) A way to capture the “performances of understanding” or exhibitions or presentations by students. **“Record.”**

=====

In my classroom in the USA, students have their own devices and I depend on the Internet.

**a) Watch:** Students watch my lectures on YouTube.

**b) Create work:** Students create their work on Google Drive, on blogs and on their own sites Google websites.

**c) Send messages:** Students get messages from me and using email. to students A way to let students know that they are responsible for their learning.

**d) Record:** Students use their phones to video their exhibitions or presentations. Those videos are stored on YouTube.

This is called “watching videos at home, checking understanding in class and putting projects into portfolios.”

EXERCISE: How can we duplicate this “watching videos at home” system without using the Internet?

Before we look at this question, **let's make a list of technologies.**

## A. Examples of Technology (make a list with your partner)

We need to get the list of technology out of the way. Until we cover that list, it will hover over this course. So let's get that list on the board. Create a list with your partners about what technology is available to us.

Make a list of technologies that we want to use in the classroom...

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If you need more space, please write on the next page.

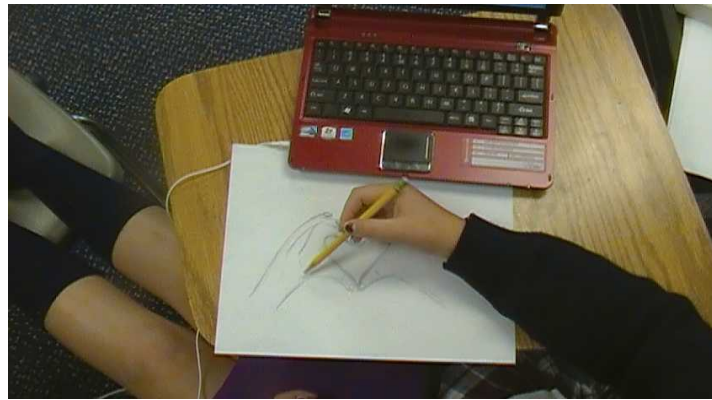
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That's enough writing...

Use technologies from your list to answer this question:

### EXERCISE

How can we duplicate the “watching videos at home” system without using the Internet?

### *Technology in the Classroom without Internet*

Your first task is to think about how to organize your classroom without the Internet.

- a) A way to show your lectures (for students to prepare before class). **“Watch.”**
- b) A way to give students space to work on projects. **“Create work.”**
- c) A way to let students know that they are responsible for their learning. **“Send messages.”**
- d) A way to capture the “performances of understanding” or exhibitions or presentations by students. **“Record.”**

**Watch:** Students watch my lectures \_\_\_\_\_.

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**Create work:** Students create their work on \_\_\_\_\_.

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**Send messages:** Students get messages from me via \_\_\_\_\_.

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**Record:** Students use \_\_\_\_\_ to record their exhibitions or presentations.

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If you have already figured out a system, then describe your system and send it to me by email [TheEbookman@gmail.com](mailto:TheEbookman@gmail.com).

If you want to learn about the mistakes that I made and how I adapted my system when the Internet was not available, then please start reading these next pages...



This principal of Met Center speaks about what happens when the student is put in the center of the school. [MetCenter.org](http://MetCenter.org)

Now let's talk about **why we want to use technology in the classroom.** Here's my test. Substitute any word in the following sentence:

**I want to use [ \_\_\_\_\_ ] to teach English\*\* in the classroom**

a tool box  
ice cream  
a helmet  
a mouse  
a dog  
a cat

a bicycle  
a pile of dust  
a TV  
a computer connected to the Internet  
a banana  
a textbook

oh. wow. I want it. I know that \_\_\_\_\_ will benefit my students. Isn't it obvious?

Computers  
ipad  
video cameras  
facebook  
digital portfolios

**\*\*choose your subject.**

**WRITE:**

**What do you dream about? What do you want to use in your classes?**

Your school has been given \$10,000. What will you buy? How will you use that technology?

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We will see that we teachers often tend to expect technology to bring special benefits. Research tells us something different. Let's read on...



## B. Principles about Using Instructional Technologies (Four “Laws”)

I attended a doctoral program at Nova University (online) about instructional technologies and distance education between 2010 and 2012. The program has four basic ideas:

- (1) There is distance between the teacher and the student.
- (2) Media do not cause learning.
- (3) Media do not cause motivation.
- (4) Methods can be equivalent even if they are not equal.

“Transactional Distance”

### **(1) There is distance between the teacher and the student.**

We can use technology to reduce the distance between professor and student.

In the face-to-face classroom, there is a distance between the teacher and the student.

There is teaching and there is a separate stage of learning. We usually don't see the distance since it often appears that the learning takes place moments after the teaching.

In the online or distance learning situation, there is usually a video or reading that is posted for the student to watch or read. There is time between the teacher's action (putting the video or reading online) and the student's action (reading or viewing the video).

**(2) Media do not cause learning.**

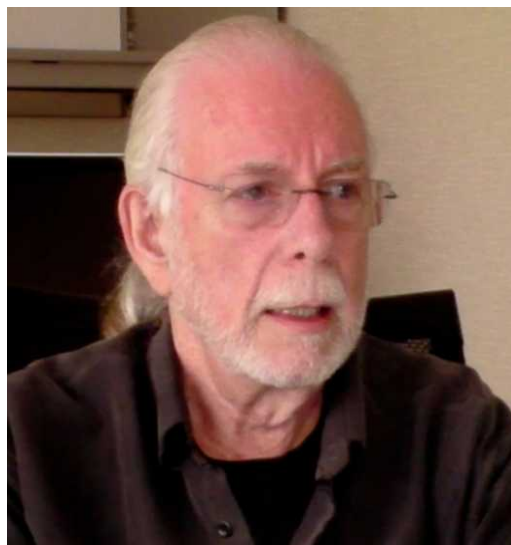
Here is a paragraph from an academic article that has been quoted many times:

**Media are mere vehicles** that deliver instruction but do not influence student achievement **any more than the truck that delivers our groceries causes changes in our nutrition.** Only the content of the vehicle can influence achievement. **It is what the teacher does – the teaching – that influences learning.**

**Reconsidering Research on Learning from Media**

Richard E. Clark

*Review of Educational Research*, Vol. 53, No. 4. (Winter, 1983), pp. 445-459. Stable URL:  
<http://links.jstor.org/sici?sici=0034-6543%28198324%2953%3A4%3C445%3ARROLFM%3E2.0.CO%3B2-5>



Richard Clark  
Find his papers at [cogtech.usc.edu](http://cogtech.usc.edu)

Think about this idea.. How does this classroom's “technology” NOT automatically teach students?



If the technology does not automatically lead students to learn, what can happen?

**Media are mere vehicles** that deliver instruction but do not influence student achievement



**any more than the truck that delivers our groceries causes**

**changes in our nutrition.** Only the content of the vehicle can influence achievement. **It is what the teacher does – the teaching – that influences learning.**

Richard E. Clark “Reconsidering Research on Learning from Media”  
Review of Educational Research, Vol. 53, No. 4. (Winter, 1983), pp. 445-459  
<http://www.cogtech.usc.edu/>

**Los medios  
son solo  
vehículos,** que conducen la  
instrucción, pero no influyen los logros  
estudiantiles más de lo que influencia nuestra nutrición,  
el carro que trae los alimentos.

**Solo en  
contenido del  
vehículo puede  
influir el logro.**

Es lo que hace el maestro—la enseñanza—la que influye el  
éxito.

Richard E. Clark, "Reconsidering Research on Learning from Media" Review of Educational Research.  
Vol. 53 # 4 (Winter, 1983) pp. 445-459

### **(3) Media do not cause motivation.**

#### **Motivation With Media**

Media are also not directly responsible for motivating learning. Motivation [is connected to] learners' beliefs and expectations about their reactions to external events -- not to external events alone. Students' beliefs about their chances to learn from any given media are different for different students and for the same students at different times.

Note: This paragraph comes from an article that is based in part on a debate between Richard E. Clark and Robert Kozma at the 1993 international convention of The European Association for Research on Learning and Instruction at Aix en Provence, France, September 4, 1993, and on a February 1991 article by Clark in *Educational Technology* titled "When Researchers Swim Upstream: Reflections on an Unpopular Argument About Learning From Media" (pp.34-40).

### **(4) Methods can be equivalent even if they are not equal.**

The learning after the face-to-face session will be "equivalent" to the learning after the online session. Why?

In the face-to-face session, a person who is not a native speaker might not participate immediately. The teacher might add an additional story or support the spoken lesson with some key words written on the board. Those key words might already be in the online lesson.

In the online version, the non-native speaker might participate more quickly or might write more than the same person might speak in the face-to-face class. The participation might not be "equal" but the work could show equivalent amounts of learning.

**"The teacher of online instruction should provide a wide collection of activities that make possible equivalent learning experiences for students using an approach that recognizes fundamental differences between learners, distant and local. Equivalency is more difficult but promises to be more effective."**

(Michael Simonson, *International Trends in Distance Education*, p. 284)

There's a difference between online (distance) learning and face-to-face learning.

The methods are not equal. However, there can be equivalent results.

Jerome Feldman concludes that a blended approach often gets the best result.

See Chapter 16 in Feldman's book *The Art of Teaching and the Science of Learning*

## c. Five Questionable Principles about Multimedia Learning by Clark (2004)

When I went to **cogtech.usc.edu**, the University of Southern California website, I found articles by Richard E. Clark that I could easily download. I didn't need to use a doorway through my university's library. This is a part of a campaign to allow free access to journal articles (see a tribute to Aaron Schwarz in the Appendix). The agreement is “just read, don't download.” However, what does a person do if there is no continuous broadband Internet? Can I study an article when I go home to slow or no Internet? No, so I need to download the article.

Instead of sending you the link (and asking you to find the Internet to connect with and read the article), I can send you the article. I can download the article, then copy it with dozens of other articles and give you the ebooks ... and you don't have to go hunting for the article. You can start reading.

The following six pages is a condensed version of Richard Clark's 2005 article.

This is a summary of Dr. Clark's and Dr. Feldon's article from the Cambridge Handbook of Multimedia Learning.

[http://www.cogtech.usc.edu/publications/clark\\_five\\_common.pdf](http://www.cogtech.usc.edu/publications/clark_five_common.pdf)

### **Five Common but Questionable Principles of Multimedia Learning<sup>1</sup>**

Richard E. Clark Rossier School of Education University of Southern California  
and David F. Feldon Graduate School of Education & Information Sciences University of California at Los Angeles [The Cambridge Handbook of Multimedia Learning, edited by Richard Mayer](#)  
Copyright © 2005 Cambridge University Press. Reproduced with permission.

This chapter describes five popular but false principles about multimedia learning.

These beliefs include:

- 1) multimedia instruction causes more learning than live instruction or older media;
- 2) multimedia instruction is more motivating than other instructional delivery options;
- 3) multimedia instruction provides computer characters that aid learning;
- 4) multimedia instruction helps different learning styles and so maximizes learning for more students; and
- 5) multimedia instruction supports discovery approaches (projects) that are beneficial to learning.



## Principle #1: Multimedia instruction causes more learning than live instruction

Many learning benefits from technology can be explained by other, non-multimedia factors.

While many learners seem to welcome the visual entertainment, **learners are often overloaded by distractions** or the effort of processing extra information so their learning is reduced.

**A visual and a written description will** result in better learning than presenting the same information in one form alone.

### *The advantages of multimedia instruction*

Multimedia reduces the **cost of instruction**, including time savings for students and instructors and **increased access to instruction** by isolated groups of students.



There's a lot of text here. Let's throw in some images from a school in Florida that uses technology in the classroom. Source: Dennis Yuzenas, WhatDoYaKnow.com. The book with the orange cover is *A Whole New Mind* by Dan Pink.

## Principle #2: Multimedia Instruction Is More Motivating than Traditional Instructional Media or Live Instructors

Some people believe that “a primary function of television, computers, and telecommunications in distance learning is to motivate students rather than just to provide information to them.” **Multimedia courses may be more attractive to students** and so many students choose multimedia courses. However, “**high interest by students**” causes less learning than would have occurred in “instructor led” courses.

*Do motivated students learn less in multimedia instruction? Courses reporting high levels of student interest show lower levels of achievement.* End-of-course measures of high interest are linked with **LOWER end-of-course achievement.** **When achievement increased in multimedia distance studies, student interest and satisfaction decreased.** “Student satisfaction might not indicate success, since students spend less effort, especially when they choose multimedia courses instead of regular courses.”



Perhaps **students expect that newer media will be a less demanding way to learn.** Students invest less mental effort, and achieve less, when compared to face-to-face classes that students say are more demanding.

*Mental effort.* Many learners are not aware when they become overloaded. The mental effort may be influenced by the level of difficulty in a multimedia course. **When learning tasks are too easy or impossibly difficult, mental effort decreases radically.** Students report the amount of mental effort they are investing in easy to moderately difficult tasks. Students seem unaware when they stop investing mental effort as learning tasks become difficult or impossible. Designers should not give students **complex tasks or screen features that overload working memory.**

*Persistence in multimedia courses* Students might choose multimedia courses because **students expect that they will receive more individualized instructor contact.** In a survey of a group of online students, 68% of the 40 respondents said **they enrolled online rather than self-study because they wanted instructor feedback and guidance through the course.** Most students also believe that the instructor contact enhanced their learning in the course.

Multimedia instruction *can* include more instructor-to-student contact, which might increase the value of the course. If increased interaction is missing, motivation to stay in the course might disappear.

### Principle #3: Multimedia Shapes Instruction for Different Learning Styles

Individual differences between people may impact instruction. Shaping multimedia instruction to different learning styles might not improve learning.

*Cognitive styles and learning preferences.* Some researchers believe that cognitive styles and learning preferences can contribute to how much learning takes place. Unfortunately, there is no link **between the subjects' style and their performance on the reasoning tests.**

*Motivation/goal orientation.* Goal orientation refers to the source of an individual's motivation for learning. Those who are classified as having “**mastery goal orientations**” **look new knowledge for their own satisfaction** and are not motivated by comparing their performance to the performance of others. In contrast, “**performance-oriented learners**” **invest effort in learning primarily to get public recognition.**

*Intelligence.* Fluid reasoning ability can predict performance on novel problem-solving tasks. However, after instruction familiarizes learners with a set of skills and problems over time, such advantages diminish. **High levels of deliberate practice are necessary to excel in a domain.**

*Prior knowledge.* Existing knowledge can also explain individual differences in academic results. When novices acquire knowledge, the learning is slow. The effort to process information decreases after skills are practiced. **Learners with low levels of knowledge need more instruction** to minimize the level of unnecessary mental load. **By reducing the amount of effort by novice learners, more capacity is available for the accurate recording of material.**



If unstructured information is presented to the novice learner, he will become overloaded and performance will suffer. Conversely, **learners with higher levels of prior knowledge benefit from less structured instruction.** The novice requires support to organize the information. For the more knowledgeable learner, additional instructional support will often impose unnecessary cognitive load, resulting in decreases in performance.

*Conclusions about accommodating learning styles.* **The assessment of prior knowledge for the customization of multimedia instruction offers great promise.** Learner support should be faded out as learners acquired more knowledge. Rapid assessments of learners can shape the course of computer-based instruction to improve achievement.



## Principle #4: Multimedia Instruction Can Provide Active Pedagogical Agents that Increase Motivation and Aid Learning

*in other words: Computer characters can sometimes teach better than a live teacher.*

Animated agents are defined as “a computerized character designed to facilitate learning.” Agents “can focus a learner’s attention by moving around the screen, using gestures, providing feedback and conveying emotions.”

*Conclusion* – Differences in student learning might not come from attention caused by the agent, but from **the method provided by the agent. Is the animated agent the only way to deliver these lessons?** If alternative ways can deliver the same lesson with the same learning and motivation, but with less cost, shouldn’t we choose the least expensive option?

**Using a human voice without the image of an agent is enough to cause learners to interact with a computer like a person.**



Posters are an important “technology” available for the learning space. Dan Pink writes about the importance of “right-brain” thinking, which includes “design” and “story,” in his 2005 book, *A Whole New Mind*.

## ***Principle #5: Multimedia Instruction Provides Learner Control and Discovery Pedagogy to Enhance Learning***

Many people believe that it is best when **learners use unstructured learning or solve new problems without instructional supports**. However, this assumption about pure discovery learning has been tested repeatedly and is less effective than well-structured, guided instruction .

*Cognitive load theory*. Developed by John Sweller and his colleagues, the theory looks at the limited capacity of working memory. **As novice learners develop skills, the information occupies less “space,” which allows for the processing of more advanced elements and complex problem solving.** Mental resources must be used if external supports and carefully controlled presentation of material are not used.

*Instructional support*. As learners gain mastery of basic knowledge, their need for external supports decreases. **Providing more structure than needed can impose extra load on working memory. We should reduce instruction when the learner’s level of expertise increases.**

Pure discovery learning does not use instructional supports, so it imposes large amounts of extra mental load on new learners, and increases the amount of time and mental effort. However, expert learners have been found to perform better after learning in unstructured environments. **Pure discovery learning is beneficial only to those learners who don't require additional training.**



Biology teacher François Savain talks about “digital projects in classrooms” with Dr. Abraham S. Fischler, president emeritus of Nova Southeastern University, consultant for K-12 school transformation and author of commentaries in *Building More-Responsive Schools*.

## General Conclusion

Multimedia instruction can reduce a) the time needed to learn, b) the time needed by teachers, and c) the cost of learning. Like all new and exciting educational innovations, multimedia also suffers from mistaken beliefs. Conclusion (1): **Multimedia does not increase student learning beyond any other media including live teachers.**

Conclusion (2): Multimedia may be a more attractive option for instructions by students than older media. However, **as student interest in multimedia courses increases, learning decreases because students may feel that learning in these courses requires less work.**

Conclusion (3): The flexibility of multimedia permits us to change the instruction to help a variety of learning styles. However, researchers have failed to prove this assumption.

Conclusion (4): The two most promising individual differences that can be used to shape instructional programs are **the prior knowledge and learning goals** of students. These do not require the use of multimedia.

Conclusion (5): Putting computer characters (agents) into multimedia courses reduces the lesson's benefits. Why? **The computer characters often overload the memories of the students.** Agents may be expensive and unnecessary. Narration can achieve similar learning results at lower cost.

Conclusion (6): Multimedia advocates have often supported discovery and problem-based learning. The flexibility of multimedia technology permits students to move between lessons. This control seems to harm learning for students with less prior knowledge. **Strong instructions seem to interfere with the learning of more advanced students.** Changing instructions to meet the student's prior knowledge is beneficial, but it does not require multimedia instruction.

The main concern addressed in this chapter is **the need to check research evidence for the presumed benefits** of instructional media. **Research sometimes provides counterintuitive evidence. New research prevents us from causing damage or investing in instruction that does not support learning.** Research can also point in directions that can lead to increases in achievement such as Corbett's (2001) two-sigma gain in learning with a 40-percent reduction in learning time.

## Followup about Corbett's two-sigma gain

to truly understand Clark's point about the benefits of research, it is recommended that you visit this website: <http://adaptcourseware.com/automating-mastery-learning/> to learn about automated mastery learning.

*added material for using in training seminars about Clark's article.*

NOTE to the reader about Corbett and the Two Sigma Problem (mentioned by Clark)

The following piece comes from a researcher named JOHN BOERSMA, PH.D.

*As a teenager, I discovered a set of self-paced instructional workbooks in my local library. I loved them! I could learn a subject like electrical circuit design on my own, with the*

workbooks letting me know if I was getting something wrong. These workbooks were organized like a flowchart. If you answered a question correctly, the flowchart directed you to the next, more advanced topic. If you answered a question incorrectly, you were told why you were wrong and invited to try again.

This approach took a lot of pages, though, and only so much material could be covered in a workbook – far less than in a full course.

Today, we can automate this process – letting a student stick with a topic as long as needed to master it, and providing feedback when a wrong answer is produced. And with computerization, there is no limit to the amount of material and the richness of feedback we can provide. We can bring mastery learning to all students.

**But how well can automated mastery learning methods work?** In my last post, I described the best human tutoring methods, as explored by Benjamin Bloom. These methods can bring average students to the 98th percentile of students in traditional, non-mastery courses. Can automated methods compete with this?

The answer is yes. **Good computerized models of subject matter provide enough context for automated tutoring engines to be competitive with the best human tutors.** Albert Corbett of the Human-Computer Interaction Institute at Carnegie Mellon University, in his 2001 paper *Cognitive Computer Tutors: Solving the Two-Sigma Problem*, describes automated tutoring methods in a computer science course. In Corbett's study, the combination of mechanized individualized feedback and a student-paced mastery learning methodology produced a one standard deviation improvement in learning outcomes over traditional instructional methods – or roughly a full letter grade improvement.

At Adapt Courseware, our Meta-Hint tutoring engine reflects these insights. It combines topic-specific authored hints (for each learning objective), generic hints (based on the structure of each learning interactive type), and default hints (for those cases in which the system just cannot figure out where the student is going wrong). These hints are adaptively delivered based on the student's series of responses to an assessment interactive. The result is a rich automated tutoring environment that will improve learning outcomes and student engagement.

<http://adaptcourseware.com/automating-mastery-learning/>

Blog entry by JOHN BOERSMA, PH.D.

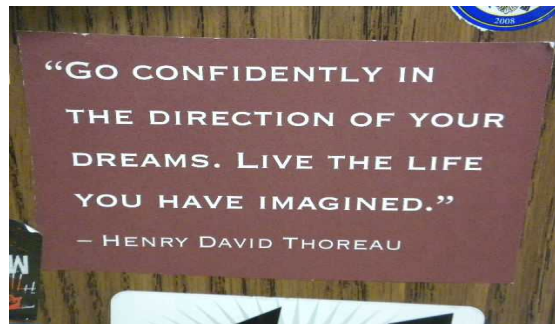
I write about learning theories and emerging web technologies. My academic background includes a doctorate in particle physics and an M.B.A. Feel free to comment on my blog or drop me a line using our [contact form](#).



## D. Posters

Look at Some Posters...

It might be painful for some readers.  
Please cut this book.  
Hang the posters.



The use of posters and quotations in Bak Middle School of the Arts,  
West Palm Beach, Florida.

**Guidelines for Teachers**  
**For motivated,**  
**advanced**  
**students, give**  
**them resources**  
**and a goal and**  
**let them learn**  
**on their own.**

**For the rest: fully guided instruction**

From **“listen to the teacher”**...



... to **“let's work together.”**



1. **Give** a clear  
and concrete  
goal

2. **Show**  
when

and **how** to do what  
you are teaching,  
step-by-step



When you get on the Internet, please visit  
BIBPenpals.com

Thank you.



Matt Blazek demonstrates his “digital projects and portfolios” on CD to Dr. Fischler (left) and high school teacher Andrew Gordon. For information, write to [mjblazek@hotmail.com](mailto:mjblazek@hotmail.com).

**3. Let them  
practice on  
another  
engaging  
problem or task**

When you get on the Internet,  
please visit  
**BIBPenpals.com**

Thank you.



In addition to lecturing, teacher Dennis Yuzenas shows students how to become “guides on the side” and how to curate information. The external hard drive (right side of photo) holds over 800 gigabytes of graphics, movies, projects and portfolios.



**4. Give them  
corrective  
feedback  
during the practice  
and ask them to  
explain why they  
learned the task.**

Clark, R. (2009). "How Much and What Type of Guidance is Optimal for Learning from Instruction?" Chapter 9 in Tobias, S. and Duffy, T. M. (Eds.) *Constructivist Theory Applied to Instruction: Success or Failure?* N.Y.: Routledge, Taylor and Francis. 158 – 183.  
[cogtech.usc.edu](http://cogtech.usc.edu) [TransformTeaching.org](http://TransformTeaching.org) Creative Commons with attribution

**Ostrich politics will not solve  
environmental problems.**

**In the soil we should put beans.**

**Stockholm**

**1972**

One of the most puzzling posters I've ever seen.

# It's not your learning style...

If you don't understand your teacher,



don't say, ***"I'm a visual learner and he doesn't use enough pictures."***

Teachers should **“tailor instruction to different levels of prior knowledge”**

Source: Advice about the Use of Learning Styles: A Major Myth in Education  
Dembo and Howard (2007), <http://www.eric.ed.gov/PDFS/EJ767768.pdf>

and **“teach learning strategies.”**

See Dembo and Seli (2013). Motivation and Learning Strategies for College Success.  
New York: Taylor and Francis.

If you don't get it,  
**say something to your instructor.**

# “No importa cuán lejos hayas ido por el camino equivocado, regresa.”

Proverbio turco (tomado del libro, *The Big Picture* por Dennis Littky)



**Comentarios:** Hemos invertido mucho dinero y entrenamiento en la gran escuela pública. Bill Gates ha aportado mucho en aras de hacer las escuelas más pequeñas y en que tengan acceso a la tecnología. Necesitamos detenernos, dar media vuelta, y regresar a la cuadrícula número uno. Es necesario adicionar una capa más de instrucción asistida por computadoras sobre el existente sistema de educación, donde padres, alumnos, maestros y directores se reconecten vigorosamente a las metas de la educación. Y poder finalmente movernos en la dirección de convertir al estudiante en la clase.

*Dr. Fischler* Transform-Education.com

After reading these posters, you might think, **“How can we use technology to support these steps?”**

Some teachers suggest that students can learn through projects. I've tried this procedure with a group of 27 students (ages 13-16) from Ecuador, Chile, Spain and Hungary in January 2012. I was asked to teach them for five weeks and I asked every student in the class to work on projects to learn and practice English grammar and vocabulary. Big mistake!

Clark points out: projects are good for “advanced, motivated students.”

Please notice the sections of the following paragraphs with the **BOLDFACE** letters:

Yet some of us part company with **problem-based learning advocates when they require learners to invest effort in order to construct a solution to an authentic problem when an effective solution is available.** Savery and Duffy (2001) want students to “engage in the construction of history” in order to learn historical analysis and when learning science, “we do not want the learner to [learn to] ... execute scientific procedure as dictated – but rather to engage in scientific problem solving [designed for the developmental level of the learner]” (p. 4). They suggest, “The teacher’s role should be to challenge the learner’s thinking – not to dictate or attempt to proceduralize that thinking” (p. 5). The key issue is whether learners will be required (forced, dictated) to discover or invent any part of their own learning support or the curriculum they are learning. This issue is subtle but vital in understanding what Mayer (2004) and Kirschner, Sweller, and Clark (2006) believe to be the reason **why many instructional treatments in the past have failed to show adequate benefits.**

Clark (2009). *How Much and What Type of Guidance is Optimal?*

EXAMPLE: I treated all 27 students in the English grammar and vocabulary class the same: **I pushed them to create projects.** Some of them were not motivated to work on their own. Some of them were not strong enough (not “expert” enough in the subject) to work on a project, so I ended up giving a lot of “scaffolding” (support). Clark points out that the learning is more effective if the information is transferred to long-term memory and if the transfer is reinforced with practice.

This issue of working memory and long-term memory brings us to two more posters that come from discussions with Dr. Clark.

The aim of all instruction is to add knowledge and skills to long-term memory. **If nothing has been added to long-term memory, nothing has been learned.**

Richard E. Clark, Putting Students on the Path to Learning  
<http://www.aft.org/pdfs/americaneducator/spring2012/Clark.pdf>

How do teachers help students put information into their long-term memory?  
Use fully guided instruction

Search for "Barak Rosenshine's Principles of Instruction."





Here's an interlude.

Research somewhere indicates that people tend to look at faces.



Notice how Dennis Yuzenas uses posters in his classroom.

This poster shows us WHY we should not push every students to do projects immediately. Some students (many students?) need more guided instruction. When students become more advanced and motivated, then we can ask them to do projects.

**1. Working memory is very limited** when dealing with new information.

**2. Working memory is not limited when dealing with organized information** that is pulled from long-term memory.



**Tips for Teachers:** In some situations, perhaps as few as two items can be processed in working memory.

Beginners have only their constrained working memory. But experts have both the working memory and all the relevant knowledge and skilled store in long-term memory.

**Students learn more by studying worked examples** than by trying to solve problems or to discover the solution.

Richard E. Clark, Putting Students on the Path to Learning

<http://www.aft.org/pdfs/americaneducator/spring2012/Clark.pdf>

How do teachers help students put information into their long-term memory? Use fully guided instruction  
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How do teachers help students put information into their long-term memory?

**Use fully guided instruction**

Search for “Barak Rosenshines’s Principles of Instruction.”



Another issue is the problem of “the expert.” Experts tend to give “good explanations,” showing the obvious answer step-by-step. Unfortunately, many experts “chunk” or blend microsteps into large steps in order to store these procedures in their long-term memory. This “chunking” has advantages for storing information in long-term memory. However, the “chunks” need to be pulled apart for beginners to understand the procedure.

Dr. Clark explains the situation in a video interview in January 2012. I made a poster about the “70-percent problem with experts.” Let's discuss how we can use technology to help students get around the “70-percent” problem.



One way to get around the “expert” problem is to ask students to explain a procedure. A beginner will tend to avoid chunking the micro-steps.

# When we ask experts to tell us about something, they often forget to tell us about 70 percent of the mental operations

that they have to perform to succeed in their areas of expertise. They use these operations to match patterns and to know what steps to take. When they do this over and over again, they start to automate (John Anderson writes about this process). Education completely rejects the idea. Educators have not understood your job in schools: **If you are going to promote learning, you have to quickly teach people to automate**, so they don't have to think about it anymore. Their minds are then free to learn new things. That's the purpose of working memory. Most of knowledge is so automated that we are not aware of it. Who teaches? Experts.



## RECOMMENDATIONS:

**1. Ask a teacher, "What steps are you not telling us about?"**

Ask the teacher, "What steps do you compress in your mind?"

**2. Ask a non-**

**expert to show you.** Teachers can ask a student to demonstrate a procedure. Then the "70-percent omission" might be avoided. Read Dr. Clark's paper at [cogtech.usc.edu/recent\\_publications.php](http://cogtech.usc.edu/recent_publications.php)

Watch the YOUTUBE video "Richard E. Clark Automate"

<http://www.youtube.com/watch?v=SSK63nqEbLQ> TransformTeaching.org CogTech.use.edu

## Discussion:

1. How can we use technologies to help experts teach more effectively?
2. **EXERCISE:** Think about a procedure that you want to teach. It's a procedure that you know very well. You know you are an expert in this procedure, so you expect that you are “chunking” some of the steps. How could you use technology to get the micro-steps explained better to your students?



Teachers can encourage discussions by visiting other schools. Mario Llorente (right) talks with an English literature teacher at Boca Prep International bocaprep.net.

# Media are mere vehicles

that deliver instruction  
but do not influence student achievement



**any more than  
the truck that  
delivers our  
groceries causes**

**changes in our nutrition.** Only  
the content of the vehicle can influence  
achievement. It is what the teacher  
does – the teaching – that  
influences learning.

Richard E. Clark “Reconsidering Research on Learning from Media”  
Review of Educational Research, Vol. 53, No. 4. (Winter, 1983), pp. 445-459  
<http://www.cogtech.usc.edu/>

# Look at our Intuitively Appealing Beliefs

## **Belief 1: Ask the student what he needs**

**What's real?** Many students don't know what they need. Many students will choose a less-effective method of learning because that method will require the least effort.

## **Belief 2: “Our school needs more technology. Without computers, our students will fall behind.”**

**What's real?** Clark points out that adding technology to a classroom does not guarantee improvement. “Media are mere vehicles.” Teachers need to use effective methods.

## **Belief 3: Projects are good for everyone.**

**What's real?** Ask, “How will the projects be given to the students?” Don't give too many choices. *“Here are 15 projects. Choose one.” BETTER: give 3 or 4 options. Projects are good for advanced motivated students.* The rest of the students need fully guided instruction.

## **Belief 4: I should teach to the student's learning style**

**What's real?** Clark points out that it is more reliable to find out what each student knows ("prior knowledge") and start teaching from there. Willingham calls it "background knowledge."

Source: Writings by Richard E. Clark [cogtech.usc.edu](http://cogtech.usc.edu)



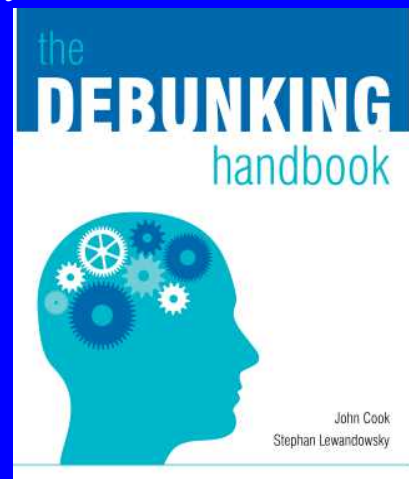
# Debunking Procedure

IF you wish to debunk an inaccurate myth and have evidence that clearly counters it, THEN focus on the undecided and/or those who accept the myth but may be more open-minded and:

**State the accurate core fact in one clear sentence.** The sentence (and all communication) should reflect the prior knowledge of the chosen audience (e.g., produce three versions - basic, intermediate and advanced, then give readers an opportunity to choose one or all to read).

**Explain the evidence** and the reason the core fact is accurate in two or three succinct sentences in the basic version and then add more technical information in the more advanced versions.

**Reinforce the core fact and compare it with the myth** in a graphic if possible.



**Prepare readers for a statement of the myth** by explaining why people (perhaps unintentionally) give misinformation (give examples in the more advanced versions).

**State the myth in one sentence** (a quote or a summary statement in the basic version; the more advanced versions could describe problems with conclusions based on flawed study design)

**Explain the gap between the core fact and the myth** by explaining why the myth is wrong as well as how and why it misleads.

Procedure summarized by Richard E. Clark. [cogtech.usc.edu](http://cogtech.usc.edu). See full document at [sks.to/debunk](http://sks.to/debunk). Cook, J., Lewandowsky, S. (2011), The Debunking Handbook. St. Lucia, Australia: University of Queensland. November 5. ISBN 978-0-646-56812-6.



*Ask students to notice more*

*For engaging student work*

Don't ask,  
"What do you see?"

**Say:**

**"Point to  
and briefly  
describe  
each of ten different  
things you see  
in this picture."**



The more that students are **challenged to notice elements in pictures or paintings**, **the more insightful they become** about the overall interpretations of what they see.

**Recommendation by Richard E. Clark [cogtech.usc.edu](http://cogtech.usc.edu)**

This poster is for public use. The design of this poster and its contents are in Creative Commons:  
Please attribute and give a link to the appropriate sources when distributing this poster.

## E. Creating a culture for technology

### Quotes to stimulate our thoughts

*Match the quote to the author*

Howard Gardner	Dennis Littky	Maria Montessori	W. Edwards Deming	Gordon Dryden	Mark Twain
William Glasser	Jean Piaget	Will Sutherland			
Abraham Fischler	W B Yeats (poet)	Robert Burns			

The teacher of the future is a GUIDE on the SIDE, not a sage on the stage. *Aphorism*

Education is NOT the filling of a pail, but rather the LIGHTING of a FIRE.

Most students might forget what you taught them, but they will always remember how you treated them.

I never let school get in the way of my education.

Drive out fear.

There are 2 billion children in the developing world. Instead of asking their teachers to "reinvent the wheel" every day, why not share lesson plans that work with their 59 million teachers?

Keep "Talking Time" to a minimum.

Schools teach children to obey. But we need creative answers to the challenges of our times. Many of the people who've had the greatest influence on our times were failures in school.

The greatest sign of success for a teacher is to be able to say, "The children are now working as if I did not exist."

Let's create people who are capable of doing new things, not simply of repeating what other generations have done.

Innovative schools offer small classes, individualized instruction, and flexible curricula which can accommodate the child. The same teacher stays with the same group of children for as many as eight grades. The teacher has to grow and learn with the children.

Many teachers believe that they need to control how they teach and how they test. Other teachers negotiate with their students what they will learn, when they will learn it and how we will check that they have learned it.

Until we find the child's passion, it's just school. When the child finds his passion, we teach to that passion. We can find internships for high school students: Kids say, "I love this internship!"

Unfortunately, to most people, teaching is the giving of knowledge. What are you going to tell the students? What is your expertise? But teaching is really about bringing out what's already inside people.

If individuals have different kinds of minds, with varied strengths, interests and strategies, then could biology, math and history be taught **AND ASSESSED** in a variety of ways?

Trust. Truth. No Put-downs. Active Listening. Personal Best.



## F. Elements of the Flipped Classroom

### Using Videos in Schools: Tips from “Flipped” Classrooms in North Carolina

A short guide to the work of Dr. Lodge McCammon  
and Katie Gimbar  
Compiled by S. McCrea, [TheEbookman@gmail.com](mailto:TheEbookman@gmail.com)

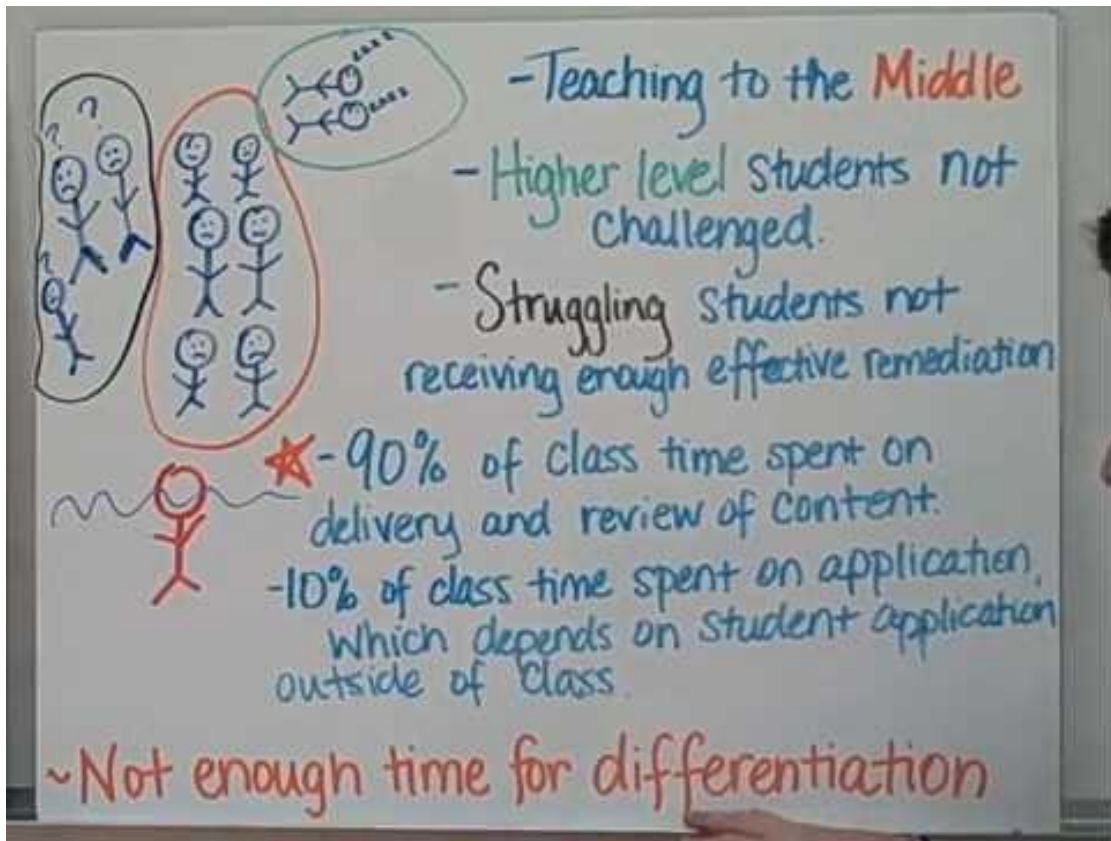


This three-minute video is an easy introduction to the idea of “flipping the classroom.” (a) What happens in a traditional classroom with lectures. (b) How a video viewed at home frees up time in the classroom the next day. The video shows how to create four or five panels and to quickly make a transaction to the next slide. There is no drawing during the video.

Watching this video is one way to learn how to flip.

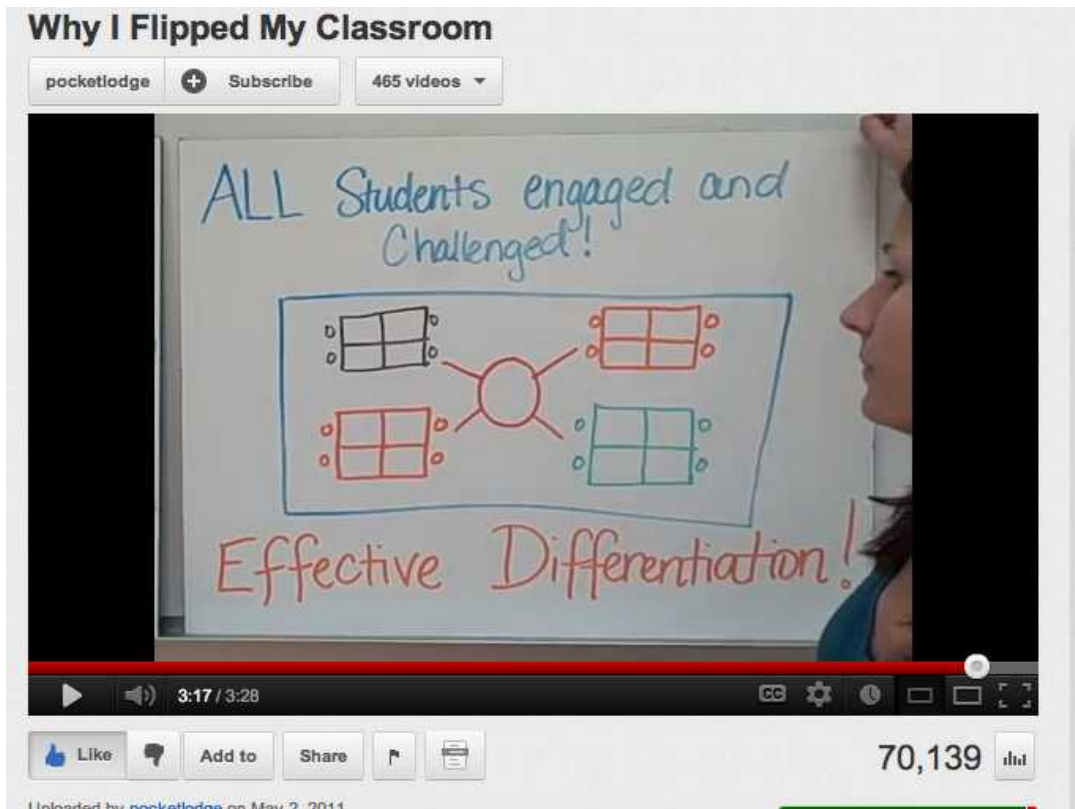
The term “flipping the classroom” suggests that something is switching places. It's an easy way to say, “Ask student to look at a video before coming to class.” Another name might be “Videos at Home, Check Understanding in Class.” VAHCUIC isn't an easy-to-remember acronym and “Videos at Home” sounds like distance learning, so this helps to explain why the name “flipped classroom” is growing in popularity.

A message to advocates of transforming education: **Let's click on this video often.** The style of the presentation shows teachers and students how to make a presentation without a lot of technical distractions. Introducing this procedure could open the door to other procedures that engage students.

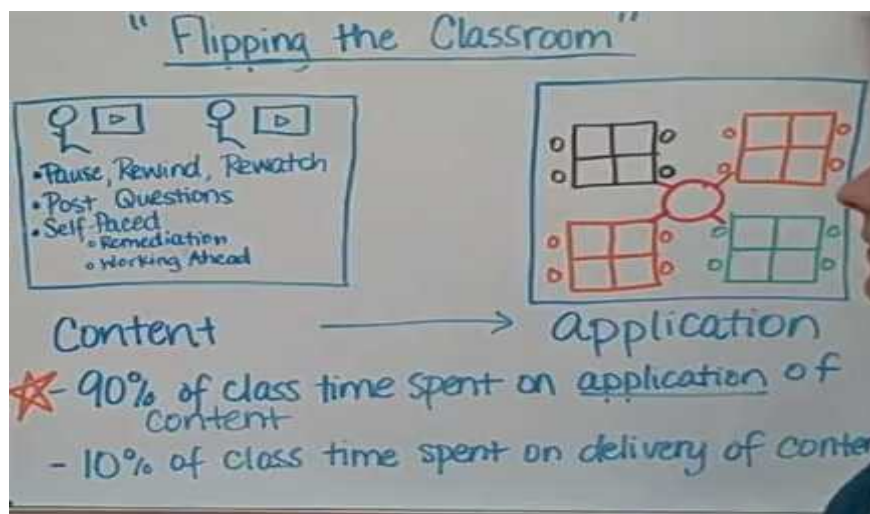


This panel show some of the challenges of the traditional classroom.





Here is the result of the flipped classroom (ask students to watch the video at home and come to class prepared to use that information in practice sessions). Note the number of views: This screenshot was taken in April 2012. The view count was up to 100,000 by February 2013.



Here are specific features of the separation of the presentation (lecture on video, viewed at home or in the media center at school) and the practice in the classroom.

<http://www.youtube.com/watch?v=9aGuLuipTwg>

Why I flipped my classroom by Katie Gimbar

This is Dr. McCammon's version of the “flipped classroom” presentation.  
<http://www.youtube.com/watch?v=-PcSafUTNd8>

What is FIZZ?

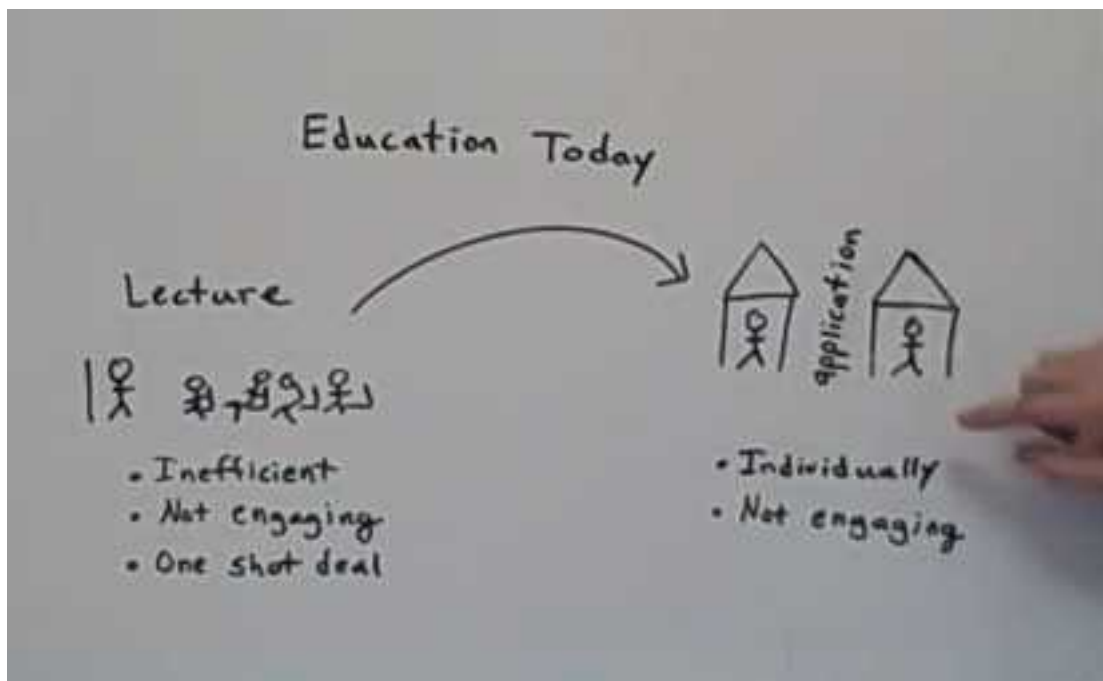


<https://www.fi.ncsu.edu/project/fizz/>

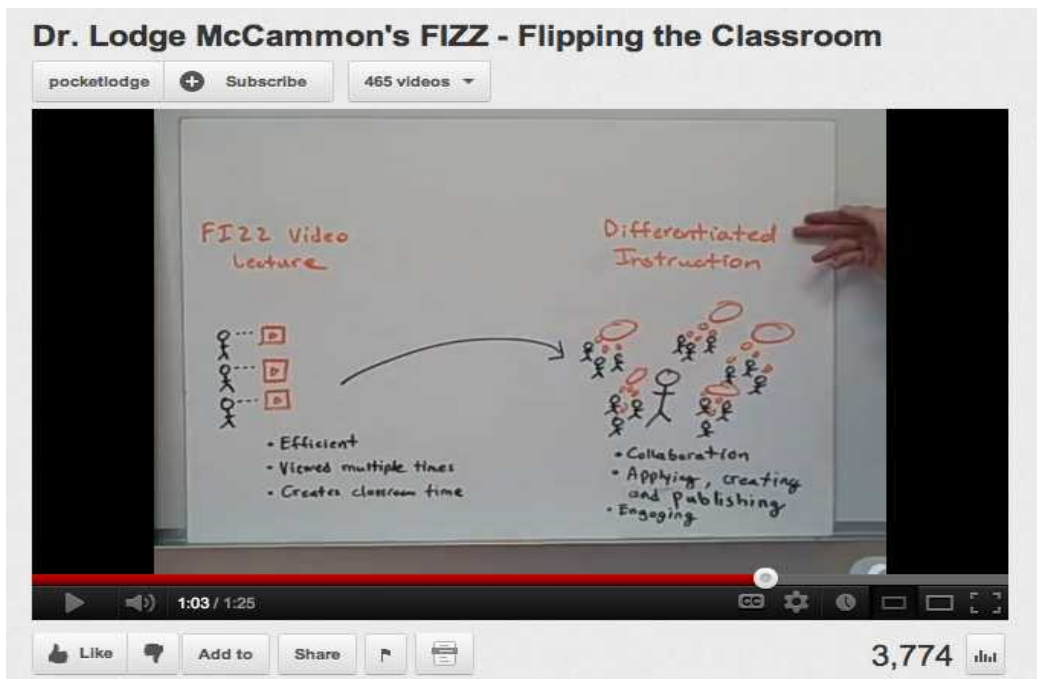
Slogan:

**FIZZ**

**Life is too short. Stop repeating yourself. Flip your classroom!**



This panel shows the features of the traditional procedure of “lecture in class, then practice at home.” <http://www.youtube.com/watch?v=-PcSafUTNd8>



The lecture is viewed at home, preparing the students to interact in the classroom.  
<http://www.youtube.com/watch?v=-PcSafUTNd8>

This screenshot comes from the FIZZ website <https://www.fi.ncsu.edu/project/fizz>

## Leaving Lectures Behind: FIZZ



September 22, 2011—Ask students and teachers what they like least about their classes, and you're likely to get the same answer from both: the lecture.

Dr. Lodge McCammon, of the Friday Institute for Educational Innovation, is working at the middle- and high-school levels to replace classroom lectures with more interactive, engaging activities. In the average classroom, McCammon said, students spend 90 percent of their time absorbing lectures and only 10 percent of it applying what they learn.

<https://www.fi.ncsu.edu/project/fizz>

## What can readers of this document do?

### What can we do to spread awareness of this method?

To learn more about the FIZZ method, the Facebook link is helpful. Advocates of interactive teaching and others who want to see more effective public education can do two things:

a) Click “LIKE” this Facebook page:

<https://www.facebook.com/fizz.education>

Number of Likes in February 2013: 1,246

Goal: 100,000 Likes by 2020?



b) Click on the YouTube link

<http://www.youtube.com/watch?v=gaGuLuipTwg>

Why I flipped my classroom by Katie Gimbar

Number of views by February 2013: 106,000

Goal: 1 million views by 2020?





The following screenshots come from this Facebook page  
<https://www.facebook.com/fizz.education/info>

## Basic Info

**Founded** 2007

**Products** Our goal is to inspire change by offering the best possible modeling-based professional development to teachers in order to increase creativity and transparency in the classroom. We will model the most engaging, efficient, and effective teaching practices in order to transform pedagogy from static to dynamic. This can be done by designing and implementing hybrid (face-to-face and online) professional development plans that encourage teachers to publish classroom work. If teachers and students publish early and often, it will create classroom experiences that will engage students as well as prepare them for life and work in the 21st century.

Flipping the Classroom  
Record. Reflect. Revive.

### Mission

Flipping the Classroom – Shifting the School

### Description

Classroom engagement is at the core of student success. Ask any adult to name their favorite teacher and receive the profile of a person who inspired learning and became a legend in the mind of their students. But how can we teach someone to be engaging? Well, we need to give them the ideas and tools that allow engagement to occur by creating super-transparent classrooms that highlight exciting and authentic teacher and student work. Suddenly you will have a class of students on the edge of their seats (and out of their seats), willing to learn anything, and excited about what they will create next. There's a new way of teaching that is taking all the 21st century elements that people talk about, and is putting them into action. Video recording, Web 2.0, online publishing and interactive curriculum are the wave of the future—and the method of teaching that will bring our teachers, students and classrooms there is called FIZZ.

Here's the contact information



## Why did Katie Gimbar "flip" the classroom?

CREATED BY **THOM MACDONALD** USING **TEDEd** Beta  
VIDEO FROM **pocketlodge** YOUTUBE CHANNEL

### Let's Begin...

Katie Gimbar found that 90% of her class-time was dedicated to delivery of content, leaving only 10% for application of content. She flips the delivery/application ratio using asynchronous on-line tools for delivery, freeing time in the face-to-face classroom for active guided team-based application activities. In her view this model allows her to engage all her learners.

Additional Resources at <http://ed.ted.com/on/BynFDc4l> (compiled by Thom MacDonald)

These links were found by clicking on "Dig Deeper"

[Flipped Classroom Survey Questions](#) - Please visit our survey to share your responses.

[FIZZ Lecture to Flip your Classroom](#) - Dr. Lodge McCammon, FIZZ Project Director at the Friday Institute discusses why we need to use video lectures. (\*RECOMMENDED\*)



[Five things John Sowash wished he knew when he flipped his class](#) - John provides some practical advice to teachers considering “flipping” their classroom.

[Katie Gimbar's Flipped Classroom - FAQ](#) - Katie digs a little deeper as she addresses a number of frequently asked questions about the flipped classroom.

## BLOG

<http://flippingtheclassroom.wordpress.com/>

Some questions raised by Thom MacDonald

How relatable is Katie’s description of her class prior to flipping to your experience in the classroom? Have you found similar challenges engaging differentiated learners? Could the flipped classroom idea work in your practice?

Does the flipped classroom concept represent a paradigm shift in teaching? Or is it a less radical idea in which the roles of the teacher and learner remain relatively intact?

<http://ed.ted.com/on/BynFDc4l#digdeeper>

Permission statement from Dr. McCammon:

*Hi Steve,*

*Please feel free to use those images and refer people to our YouTube videos. Thanks for your interest in flipping the classroom!*

*Best,  
Lodge*

=====

Curated (selected and distributed) by Steve McCrea [TheEbookman@gmail.com](mailto:TheEbookman@gmail.com)

For a free ebook by Dr. Fischler: [TransformTeaching.org](http://TransformTeaching.org) +1 (954) 646 8246

[GuideOnTheSide.com](http://GuideOnTheSide.com) for a list of quotations to spark innovation

What did Katie Gimbar show us and tell us?

- a. Watch the video
- b. Write a summary of the steps.

# How to make a video for the Flipped Classroom

## *Five Things That I learned from Lodge McCammon and Katie Gimbar*

### **What are the benefits of using video in the classroom?**

1. The teacher can capture on video the essential points that they want to communicate.
2. The video camera can be used to capture performances of understanding by students when they achieve mastery.
3. The video can capture stages of development of understanding. Student can review the videos and improve their performances (and understanding and mastery)
4. Students who miss a class (illness or who were absent for some reason) can catch up
5. Students who are ready to move ahead of the rest of the class can work independently.

### **So, how do we get started?**

What tips can we give to teachers who are going to make their first videos to flip their classrooms?

How can we make the video in one take? How can we save time? What materials do we need?

### **Materials**

A white board that slides

A page of white paper will work, too.

Make the posters BEFORE you start the video.

Use a tripod.

Sit close enough so there is not an echo in the room.

Make the poster or frame fit the frame of the camera. This means that the typical 24" by 36" vertical (portrait" poster needs to be rotated 90 degrees to be in landscape.

### **Bringing the Flipped Classroom to The Digital Divide**

I'm particularly interested in spreading the flipped classroom to schools that do not have access to the Internet. How can the flipped classroom be used in Cuba and rural areas where students can't get on youtube because they don't have a computer at home?

**The in-school watching center:** In developing countries where it is not possible for teachers to distribute the "flipped" classroom video via Youtube, there could be a media center where the community can come to watch materials. Aleph Molinari has an elegant alternative to the one-laptop-per-child proposal. Molinari points out that giving a laptop to a child might appear to be a

good idea, since you can bring the digital world to that child's family.

Unfortunately, you also impose unintended new costs to the family: what if the laptop is stolen? Electricity is needed (an added cost). What happens when the computer gets a virus and the school does not provide computer maintenance?

What is the cost of getting internet to the child at home? What if the computer is dropped? Molinari estimates that the resources for 20 laptops (enough for twenty families) would be better invested in a community computer center of 20 computers that could be open with a person on staff to train families in the use of the computers. Giving technology is not the same as fully guiding the students (and their families) in the use of the technology. The community center would provide that service (which would relieve the school of that responsibility).

In his presentation he talked about "urban acupuncture." Instead of spreading 1650 computers in 1650 families, his program set up over 100 community centers as "nodes" with the same number of computers. Like an acupuncture needle that hits a strategic point in the human nervous system, the computer center serves a neighborhood of families with just a few computers. The centers in his program in Morelos, Mexico reached 140,000 users, of which 25% (34,000 students) went through a 72-hour training program to become "digital citizens," capable of using the internet and word processing software to improve their lives. For more about the benefits of the in-school or near-school computer center, search on youtube "Molinari digital divide" [http://www.youtube.com/watch?v=kaxCRnZ\\_CLg](http://www.youtube.com/watch?v=kaxCRnZ_CLg)

**The TV-at-home solution:** In homes that have electricity and a television, there is a device that attaches to a standard TV that allows videos on a USB flash drive or a memory card to be viewed on the TV. The device is called "a digital media player for USB drives and SD Flash Cards"

So, after we have decided how to get the videos to the students (either through at-home viewers or through a community center), what guidance do we have about how best to format those videos? What is the ideal length and how much information should be included in each video? How much editing is needed to create a video? What is the most time-efficient way for teachers to record videos to flip their classrooms?

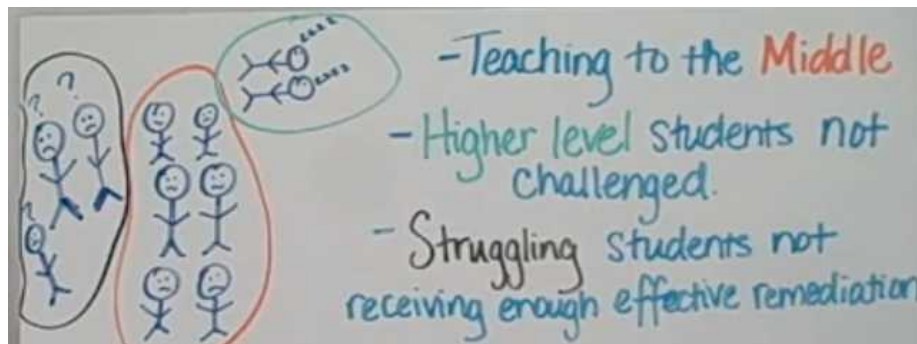
### **What can we learn from Katie Gimbar's presentation about Flipped Classroom?**

Search this phrase "Why I flipped my classroom Katie Gimbar"

<http://www.youtube.com/watch?v=9aGuLuipTwg> This is the four-minute video that the reader ought to watch before continuing to read this review. (Pause.)

.... Welcome back. Let's make a list of what someone who has never made a video for a flipped classroom can pick up from this video:

**1. We teachers can improve:** Katie Gimbar starts by reminding us how most teachers are currently teaching. Teaching to the middle, with some students bored and ready to move to the next subject and other students confused and needing support. Her graphic with the sleeping kids and the kids with question marks should be on the wall of every classroom.



**2. Simple (shot in one take):** Notice how she created a video with virtually no edits or "post production" changes. The key is preparation and the set up.

**3. Variety:** She has four boards in two minutes, creating a change of view. Lodge McCammon, whose youtube channel hosts Katie Gimbar's video titled "Why I flipped", has a video at <http://www.youtube.com/watch?v=-PcSafUTNd8> which has five panels in 85 seconds (17 seconds per panel).

**4. Eye contact:** she looks the viewers in the eye, engaging our attention. This is psychologically clever because it reinforces good listening behavior. In a face to face, if we students look at the teacher, we signal that we are ready for the next piece of information.

**5. Notice her non-verbal communication skills.** Her hand movements and positions support the message. Like a bouncing ball for a sing-along music video, the Gimbar video helps

**6. Quick:** Few of her videos is longer than three minutes and most are under two minutes.

**7. "It's very personal"** (Katie's assessment of her 93 videos made for an algebra 1 course). "It's a front row seat for every one of my students" as Katie says in a TEDx talk (<http://www.youtube.com/watch?v=a5bYuYvI42I>, minute 10:10).

**8. Modeling:** "If we want students to do something well, we should first model it for them." The video process shows students how to deliver a concise message with inexpensive hand-drawn graphics. No computer time is needed, no editing required.

### **It's up to us**

I've done my part by bringing you this information about an excellent model for the Flipped Classroom. I've put 600 videos on my YouTube channel. So, now it's up to you.

We teachers are here to be agents of change. Hundreds of advocates of the flipped classroom have demonstrated how to make effective videos. I hope that this article inspires you to search "Katie Gimbar flipped" and see what comes up. You might be inspired, as I have been, to make short, effective, engaging videos. Lodge McCammon and Katie Gimbar are my mentors and I recommend them to you.

Steve McCrea

Dennis Yuzenas began sending home videos on CD in 2001, then he asked his students to arrive in class ready to discuss the topic and do projects.





## G. EXERCISE

Think about the typical traditional classroom.  
What are the elements of the traditional lesson?

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*Adding technology to the traditional classroom*

What do you recommend?

What procedures do you recommend?

What technologies do you recommend?

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How could the “granny cloud” help your classes? Without Skype, how could you use the “granny cloud?”

## Using Skype, UK ‘granny cloud’ helps teach Indian children



 18th January 2011 in Education, Non-profit, Social cause.

If the internet can enable grandparents to read stories to their grandchildren from afar, then why not use similar technology to improve literacy and education around the globe? That, indeed, is the premise behind an initiative launched by Sugata Mitra, a professor of education technology at the UK’s Newcastle University.

On a trip to India a few years ago, Mitra — whose work is perhaps best known for inspiring the film “Slumdog Millionaire” — asked children there what they would most like to use Skype for. “Surprisingly, they said they wanted British grandmothers to read them fairytales — they’d even worked out that between them they could afford to pay GBP 1 a week out of their own money,” Mitra told the Guardian in a [report](#) last year. Accordingly, Mitra put out a call for UK grannies to do just that, and some 200 volunteers responded. “Many are retired teachers, who are now regularly on Skype teaching children in the slums,” Mitra explained. Since then, the project — known officially as “**SOLE and SOME**” but unofficially as the “Granny Cloud” — has expanded from incorporating volunteers just for storytelling to using them more as educational mentors. “This is the group of SOME volunteers that is emerging — a group of people who would make themselves available over Skype for, say, one hour a week,” explains the project’s site. The session would then be led by a mediator, and involve conversation, stories and singing. Prospective volunteers are encouraged to contact the project to get involved. Meanwhile, which generosity-minded brands will add their sponsorship and involvement to help keep it going...? (Related: [Video stories for kids, read by kids online](#) — [Remote \(grand\)parents read bedtime stories by web video](#).)

[http://www.springwise.com/non-profit\\_social\\_cause/sugatamitra/](http://www.springwise.com/non-profit_social_cause/sugatamitra/)

## PART 2: PRACTICE (SYNTHESIS)

### WORKSHOP EXERCISES

Hands-on Checklist

(Build your portfolio of skills)



*If you are sitting around a table like this,  
then it's time to get up, take some deep breaths  
and walk around the room.*

# Checklist

WORKSHOP EXERCISES  
Hands-on Checklist  
(Build your portfolio of skills)

Category	Comments
a. Using a tripod	
b. Using a video camera	
c. The Personal Learning Plan	
d. The Folder (“My Learning Book” or “PLP Folder”)	
e. Storing videos and photos	
f. Displaying videos and photos	
g. Building a paper portfolio	
h. Building a digital portfolio (transfer the paper to a digital form)	
I. Ask, “Who is not in this room? How can we use technology to bring that person into this room?”	

*Cut out this sheet and put it in your Portfolio.*

Teaching with technologies for the rest of the world.

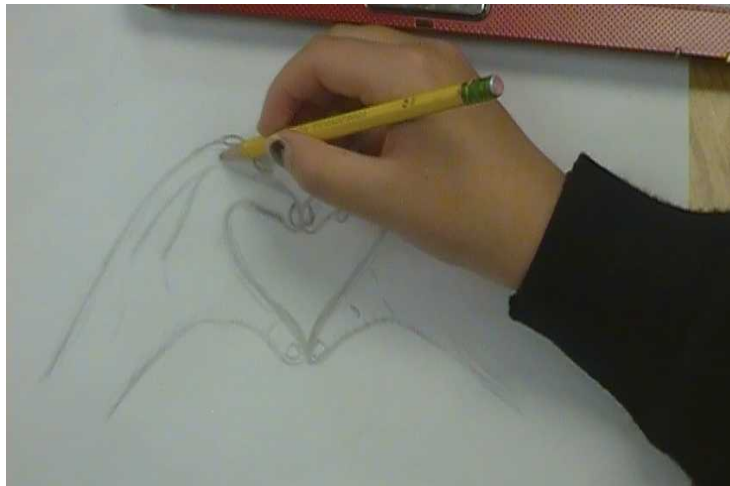
You are one of the engineers who will build a bridge across the digital divide. Think about the theme of Aleph Molinari's TEDx presentation in San Miguel de Allende. He describes the number of lives that 1650 computers can touch with one computer per family. Then he describes how many thousands of people can be touched with the same money is spent on community computer centers or multimedia learning centers for a community. Your classroom is part of that community learning center. Your efforts in the next hours of using this book (your checklist of skills about technology in the classroom) could improve hundreds of communities. Your work can help others learn from your efforts. You are part of the team that will bring 2/3<sup>rd</sup>s of the world into the digital “haves.”



## a. using a tripod

If you have used a tripod before, you might consider yourself an advanced student of technology. However, are you motivated to use this tripod in additional ways?

If you are not a motivated, advanced student, then please follow this list of instructions:



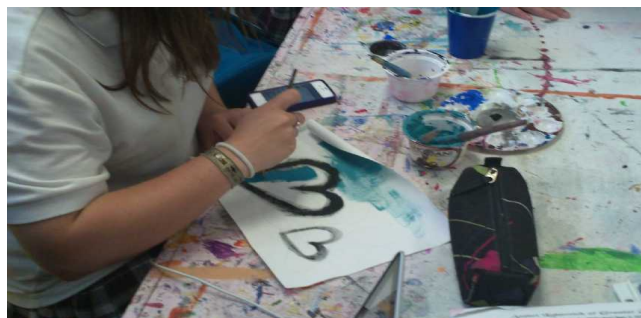
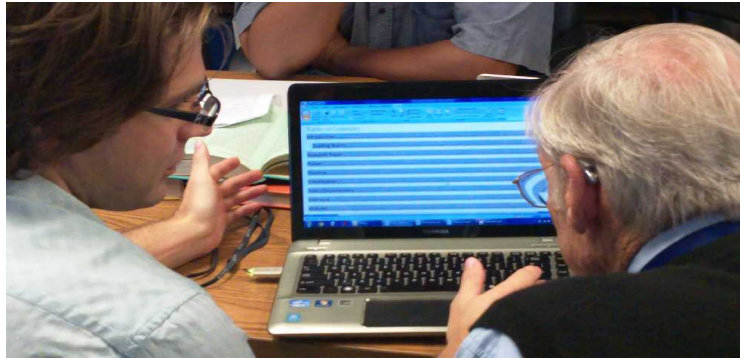
Put the tripod in a position to make a video of you working on a board.

Put the tripod in a position to take a video of pages in a book.

Put the tripod in a position to show the backs of students' heads, but still show their work.

Can you create a level position (horizontal) for the camera without using a tripod?

Put the tripod in a position that will duplicate the angle of these photos.



## b. using a video camera

What procedures are needed to show mastery of a video camera?

Write step-by-step procedures that will test how teachers can use a camera in low-level lighting...

in a noisy classroom...

in a situation when it is difficult to place a tripod.



## c. the Personal Learning Plan

*EXERCISE: What would you add to this PLP? Adapt it to your subject.*

### Individual Education Plan

Today is a fabulous day. Let's do something unusual.

Name: \_\_\_\_\_

*Read this sentence: "I am an independent student."*

**GOALS: What do you want to do when you finish school?** *Example: "I want to go into the army" or "I want to start a business." What kind of business?*

**What do you like to do when there's no school?**

**Dialogs** Write 5 dialogs (send the dialogs to [FreeEnglishLessons@gmail.com](mailto:FreeEnglishLessons@gmail.com))

Example: "A problem on an airplane"

⑦ \_\_\_\_\_

⑦ \_\_\_\_\_

⑦ \_\_\_\_\_

⑦ \_\_\_\_\_

⑦ \_\_\_\_\_

**Vocabulary: what do you want to learn?**

≡ Parts of a car

≡ Parts of the Human Body

≡ Emergency Room vocabulary (break, sprain, scrape, bruise, concussion)

≡ Parts of a tree

≡ I me my mine

≡ \_\_\_\_\_

*Read: "I like sending five sentences each day to my teacher." (+ calling every evening)*

+1 954 646 8246 Skype SteveEnglishTeacher

**Writing: Send your answers to [freeenglishlessons@gmail.com](mailto:freeenglishlessons@gmail.com)**

- ≡ Write a story that you know (Cinderella, a story from your religion, Snow White)
- ≡ Tell us about your city
- ≡ Tell us about a great restaurant in your city or in the USA
- ≡ Give three tips for new students about food or travel in the USA
- ≡ Tell us about a great place to visit in another country.

**Pronunciation check ([manythings.org](http://manythings.org))**

- ≡ think bath batch bathe breathe breath
- ≡ “aw” saw dog bought taught pause off
- ≡ fish beach seat sit sheep ship cheap chip
- ≡ hot pot top father son sun money Monday

**What else do you want to learn?**

- ≡ \_\_\_\_\_
- ≡ \_\_\_\_\_
- ≡ \_\_\_\_\_
- ≡ \_\_\_\_\_
- ≡ \_\_\_\_\_

- ≡ Switch email and Facebook to English

- ≡ Connect to FB group called “English In Boca Raton in 2012”

Keep your work and tests in this folder.

**Show this page and your work to your next teacher.**

## d. The Folder (“My Learning Book” or “PLP Folder”)

What could the folder look like?

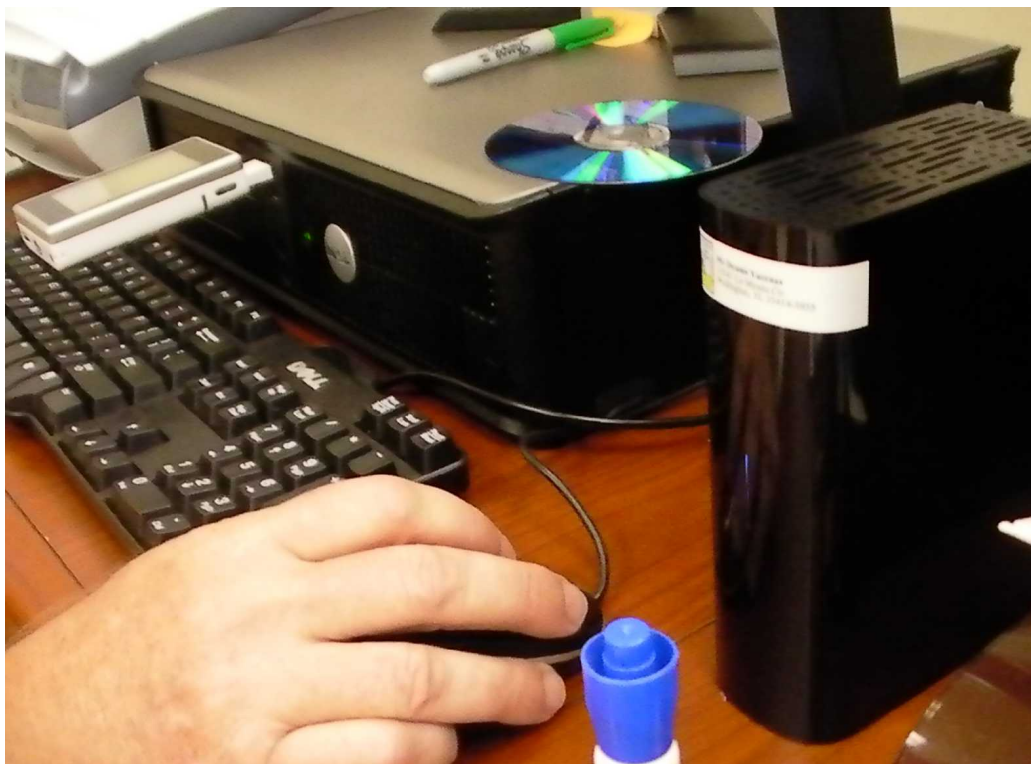


Some students bring their devices to class.



## e. storing videos and photos

What system can you use to help students hold videos and photos?



What tools help Dennis Yuzenas save the work of his students?

## f. displaying videos and photos

A digital media player costs about \$26. Connect it to a television. Now you have a digital frame. Show your work.



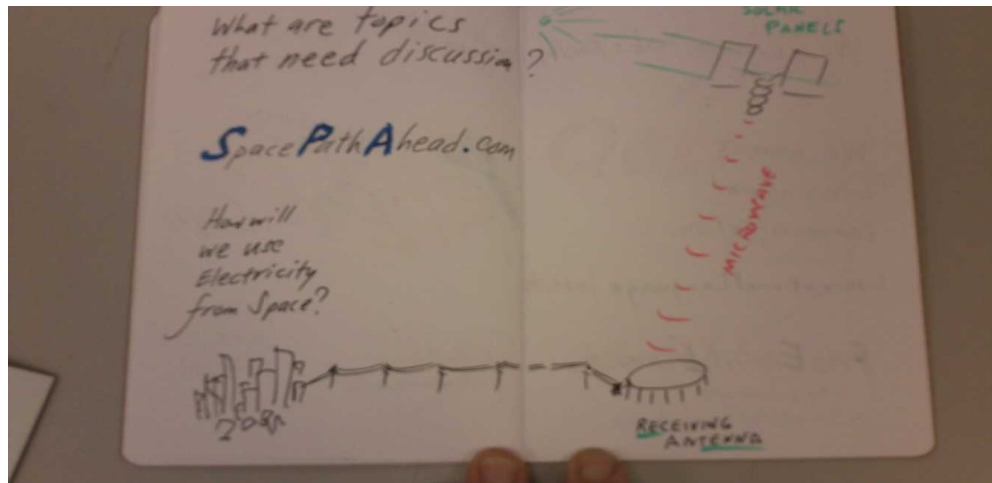
## g. building a paper portfolio

Write the words “Personal Learning Plan” on a sheet of paper.

Answer this question: “What skills do I need?”

Create a list of skills that you want to have. What do you want to be able to do?

Think about “How do I measure my skills? How do I show myself how much I have learned?”



An example of a sketchbook as a paper portfolio.

## h. building a digital portfolio (transfer the paper to a digital form)

Take a photo of the posters that you have made.

Type your notes and reports and make PDFs.

Store the notes and reports (in PDF form) on a USB or other digital storage.  
Plan your digital portfolio.

If you have access to the Internet, create a website and post your work.

I. Ask, “Who is not in this room? How can we use technology to bring that person into this room?”

Who is absent?

Who are experts on YouTube? Can we bring their videos, books, ebooks, websites, blogs into this room?

Can we bring parents into the room?

How can we record what happens here?

Who needs to see what happens in this room?

What needs to be changed so that more people can see and understand? Is the type font too large? Should colors be changed? Should we ask a woman to present the information?

# Permission Form

*(I'd like to collect your work to give examples in  
the Appendix of the Second Edition)*

I give permission for my lesson to be used on YouTube  
to show teachers how to use technology without the Internet.

---

Name

---

date

---

email address

*This form is used to obtain permission from  
the participants in the workshop.*



# Appendix

## A list of essential ebooks (a form of technology)

In the workshop, there will be dozens of books on tables. Pick up a book, look at its summary, then write the names of the books that you want to learn more about. How can technology be used to bring the essential message of each of these books to students?

Debunking Handbook (from Australia)

Dan Pink's Flip Manifesto

More books by Dan Pink  
Free Agent Nation

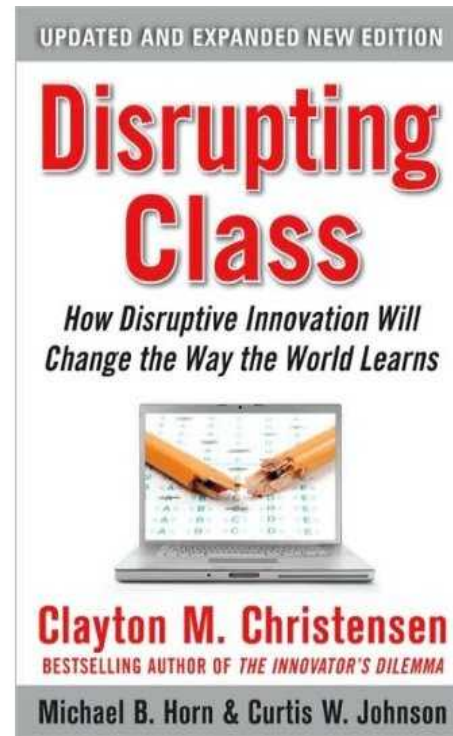
A Whole New Mind

Drive

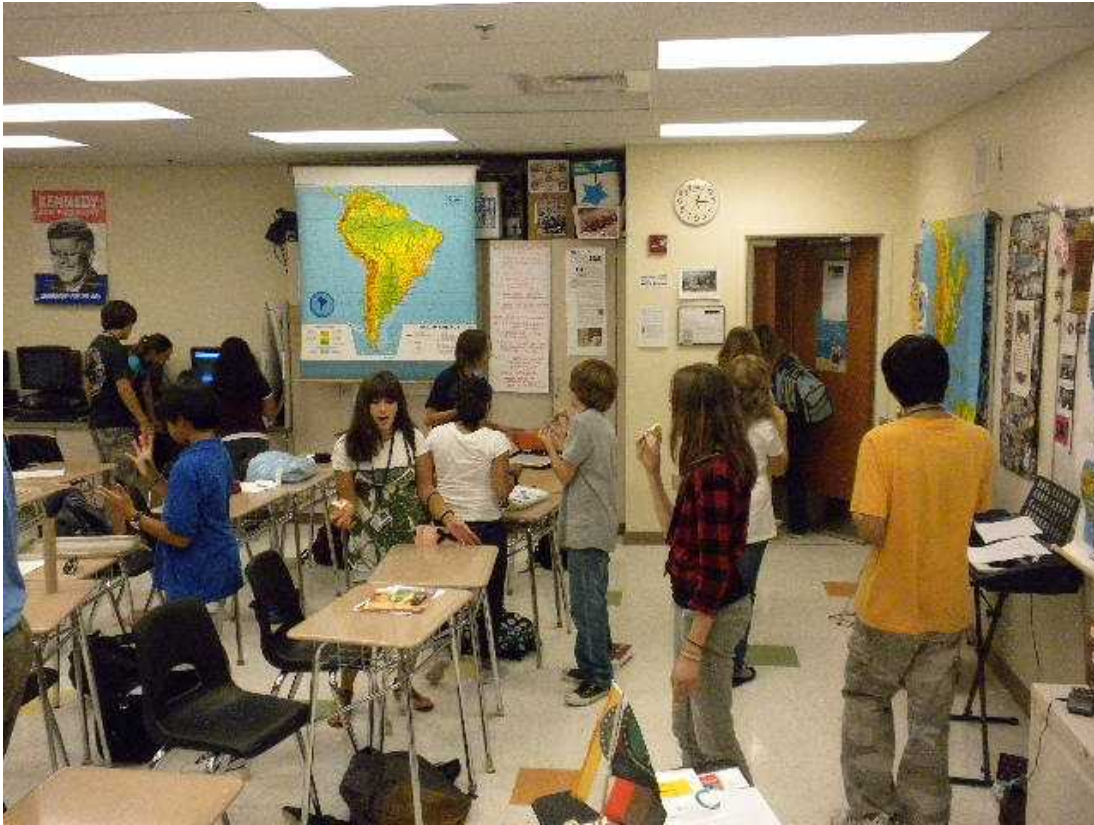
To Sell Is Human

High Schools in the Human Scale  
Tom Toch

The Big Picture by Dennis Littky



Photos from the middle school classroom of Dennis Yuzenas (Sept 2009).



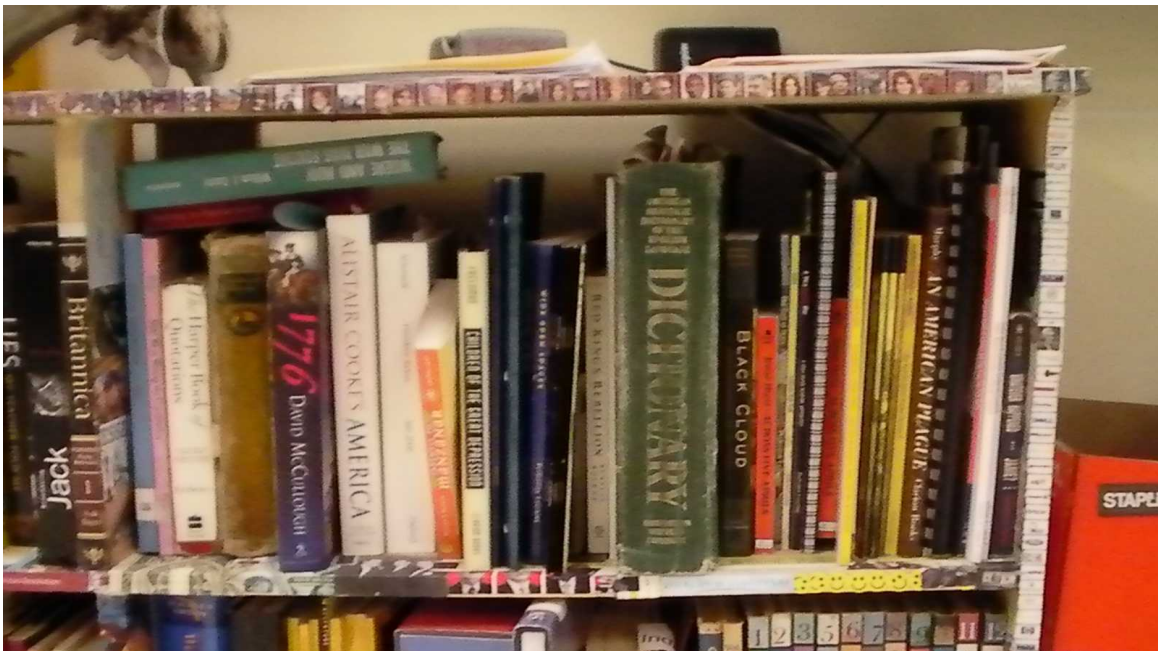
Write at least ten details that you notice in this photo.







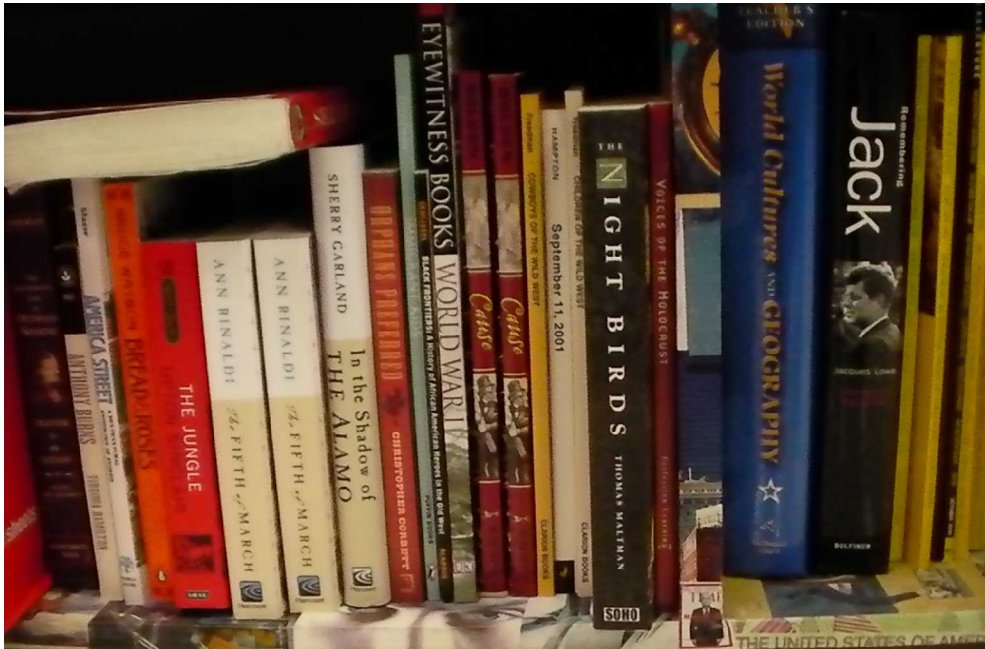
Write at least ten details that you notice in these photos.





Write at least ten details that you notice in this photo.





Write at least ten details that you notice in this photo.

### Blazek's Project and Digital Portfolio CD by Matt Blazek



To prepare for Part 3 of the Certificate program, please search “Matt Blazek Portfolios” on Youtube and view <http://www.youtube.com/watch?v=sfjXXk1AltM>



# Appendix

## Posters in Spanish

**¡OH!** El concepto o idea nueva.  
**¿CÓMO?** Un corto o gráfico para  
mostrar la idea en la práctica.

**¡AHORA!** Un breve tutorial  
ilustrado (cómo llegar del ahora al “oh”) de  
modo que los estudiantes puedan seguirlo.

Los instructores harán que sus mensajes lleguen con mayor claridad, si presentan cada punto con su demostración práctica, dígame, a través de:

- ü Videos para mostrar ejemplos
- ü Videos de tutorial para demostrar como vincular la clase con la práctica
- ü Gráficos o animaciones interactivos
- ü Canciones
- ü Bailes
- ü Fotos o dibujos
- ü Historias personales reales
- ü No escribas: simplemente telegráfíe, presente la información de modo que pueda ser fácilmente comprendida

Gordon Dryden [thelearningweb.net](http://thelearningweb.net) Wow! How? Now!



# “Los niños están trabajando como si yo no existiera”

*María Montessori*



**Comentarios:** Este es el resultado de estudiantes trabajando en pequeños grupos, y enfrascados en cumplir con sus metas. Hacen que el maestro desaparezca parcialmente del escenario del aula.

Por supuesto que existe un nivel de comprensión que es necesario y que CAI provee correctamente. Piaget asegura que redefinimos un concepto cada vez que nos cruzamos con un hecho discrepante: un suceso que no encaja con el concepto que el estudiante tiene. Forzando al estudiante a hacer preguntas como: ¿Eso en realidad existe? ¿Qué reajustes necesito para acomodar el nuevo concepto?

Tal caso ocurre digamos, cuando el estudiante descubre que el electrón puede no ser una partícula, sino que actúa más como una nube en ciertas circunstancias.

— *Dr. Fischler*

Transform-Education.com

“Un tercio de los topis de Surabaja que estarán disponibles en 15 años, aún no han sido inventados. Estamos en un punto en que tenemos que educar a nuestros hijos **en lo que nadie sabía ayer,** y prepararlos para **lo que nadie sabe aún.**” Margaret Mead



Comentario: ¿Qué podemos hacer si no sabemos lo que no sabemos? El sistema de educación ha de ser flexible. Más aún de lo que pueda ser cualquiera existente.

*Dr. Abraham Fischler* Transform-Education.com

## **Imagine what might happen if everyone could arrive at a major conference with the keynote speech in their heads.**

The keynote speech could have been posted on youtube; the text could have been distributed via email and blog and a website. An mp3 file could be downloaded for listening.

The main speaker at the conference would sit to listen to people present the key points of the lecture. The main speaker would then clarify any points that might need emphasis.

**Objection:** “People pay to come to a conference to hear the keynote speech. Why would they pay if they could get the speech ahead of time?”

**Reply:** The speech could be distributed through a limited closed group. You could get the video only if you registered for the conference. But the real skill is asking each person to write three questions (based on the for the key note speaker to address

Anyone who attended the conference would be certified as someone who demonstrated understanding on that day. Perhaps there would be a second session later that day to reinforce the concepts through repetition.

## **Check list for the instructor**

*Bring the following items to the workshop*

The goal is to assume that the expert will fail to communicate at least half of his information to the workshop. We assume that students as teachers will communicate only parts of the procedures that are needed.

bring tripods  
digital media players  
televisions  
books  
pens  
colored markers

Food for snacks (nuts, raisins, other “brain foods”)

**Aim for transparency.** The only time we teachers should hide our intentions is when the answer key gives away the reason for doing the exercise, such as the list of 25 items. Don't reveal the purpose of the 25 items.

This procedure (this entire workshop) is intended to be copied and improved.

Drink more water.  
Stretch  
Walk around the room  
Take a deep breath  
Eat more nuts  
Eat the Havana Brain Builder Bar  
Stand up, swing your arms, wiggle your tush, stretch your ribs, do the twist  
Build cognitive dissonance into many lessons  
Ask, “Who is not in this room? How can we use technology to bring that person into this room?”  
Breathe deeply



*How can we use technology to answer these questions?*

Checklist:

## **Some Questions that Students Might Have About Their Schools**

	How can we use technology to help the school answer “Yes”?
Are classes relevant to my interests?	
Can I apply what I'm learning in the real world?	
Can I choose when, where, what and how I will learn?	
Can I choose when, where and how I will be tested?	
Can I practice the skills that I need?	
Can I learn at my own speed?	
Can I learn out of the standard sequence?	
Do my teachers know about me, my interests and my talents?	

from Washor and Mojkowski (2013)

*Leaving to Learn: How out-of-school learning increases students engagement and reduces dropout rates*



A classroom that is not connected to the Internet can still benefit from technology. The computers in this class were discarded and the teacher invested time to create 20 working computers from parts of forty computers.

# Results from the April 2013 Workshop

The following pages are excerpts of the workshop. You can examine the videos on YouTube at [Youtube.com/visualAndActive](http://Youtube.com/visualAndActive) and search “Certificate applied instructional technologies”

With each photo are some comments. For more about the conference, see the videos on Youtube at [www.Youtube.com/visualandactive](http://www.Youtube.com/visualandactive).

**The most important videos to watch are the presentations by the students. *By their work, you will know the program.***

**Reineir describes pros and cons of ebooks:** <http://www.youtube.com/watch?v=O4VzjvFI1so>

<http://www.youtube.com/watch?v=lfHZG-1DTG8> **The Pros and Cons of Ebooks, by Reinier (the written note)**

**Myriam's presentation about tools for instruction** <http://www.youtube.com/watch?v=B8LHUvkPb8Y>

**Example of a video for a portfolio (for the flipped classroom)**  
<http://www.youtube.com/watch?v=hEtC1gGwx6I>

<http://www.youtube.com/watch?v=3cjvOIe4TXE> **Angelia's presentation about an instructional tool: the mind (day 2)**

<http://www.youtube.com/watch?v=nV3RJrm4noc> **The power of the lecture (by Mario Llorente)**

*Mario: I became a teacher because I fell in love with the way one of my teachers delivered classes. There is nothing wrong with lectures. It's the amount of time, it's how you are going to deliver the lecture, and it is how you connect with what is best for the students in the classroom. A well-placed lecture still has a place in the world of teaching.*

**The flipped classroom (a video to prepare for blended learning by Rosa)**  
<http://www.youtube.com/watch?v=5r3-JpvAzKY>

The following videos show the presentation by the instructors, Mario Llorente and Steve McCrea:  
<http://www.youtube.com/watch?v=QEgmIDRD8nM> part 1

<http://www.youtube.com/watch?v=KL1-BNPbrek> part 2 (with the nutrition bar)

<http://www.youtube.com/watch?v=HX8vBRfgagg> Day 3 (flipped classroom)

<http://www.youtube.com/watch?v=8ynuthTrOqY> Introducing two mentors (Yuzenas and Gonzalez)

[http://www.youtube.com/watch?v=U1\\_MPL-j82Q](http://www.youtube.com/watch?v=U1_MPL-j82Q) an example of hands-on learning by a participant (who used a tripod for the first time under the tutelage of Mario Llorente)



The lectures took place on the fifth floor of the FLEX faculty building. The single doorway led to a hallway and the classrooms on the fifth floor. In those classes, Mario and Steve gave additional short question-and-answer sessions. In an adjacent classroom, we shot some videos on Day 4.

Here is a video from one of those Q and A sessions:



*If you have the opportunity to give  
a lecture at a university,  
please make time to sit with students  
and listen to their questions.*

[http://www.youtube.com/watch?  
v=CHNBaxBdgWc](http://www.youtube.com/watch?v=CHNBaxBdgWc)

## **The Presentation**

Day 1

Overview of the training

Description of the definition of “Instructional Technologies”

Day 2

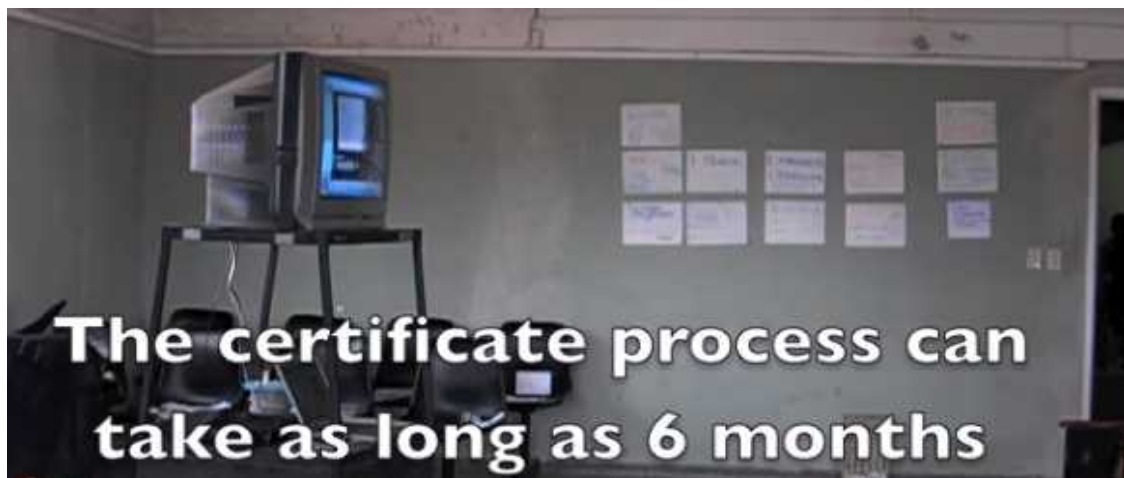
Participants described instructional tools

Day 3

Description and demonstration of the Flipped Classroom

Day 4

The Participants made videos (for their flipped classrooms)



## Day 1

### Overview of the training

### Description of the definition of “Instructional Technologies”

The central definition comes from the Association for Educational Communications in Technology.

*"the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning,"*

[http://en.wikipedia.org/wiki/Instructional\\_technology](http://en.wikipedia.org/wiki/Instructional_technology)

Richey, R.C.(2008). Reflections on the 2008 AECT Definitions of the Field.

TechTrends. 52(1) 24-25



Introduction by the dean



Highlights from the first day



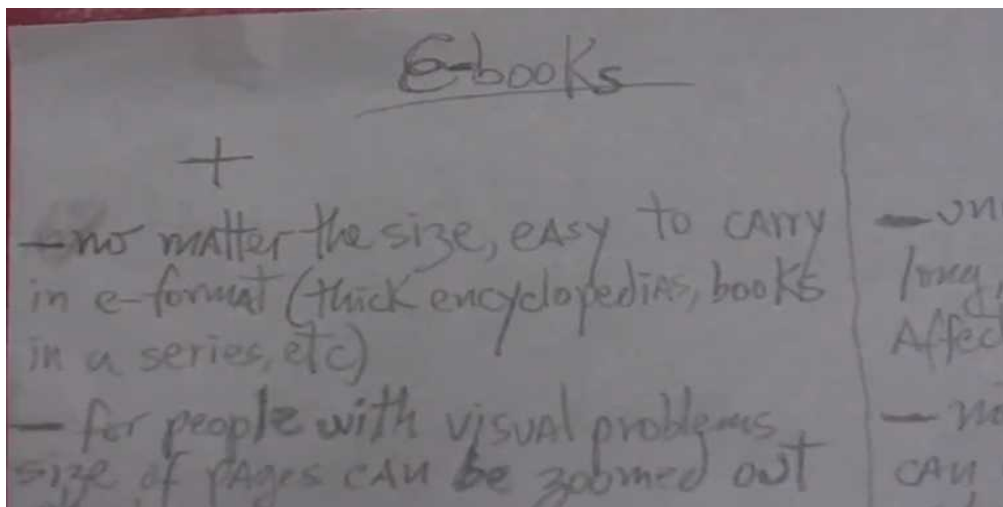


## Day 2

### Participants described instructional tools



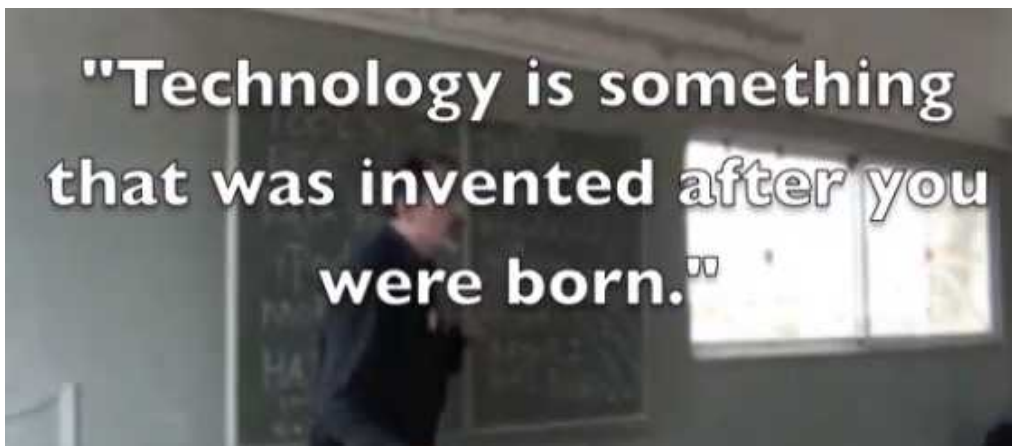
Angelia delivered a passionate description of the mind as an instructional tool.

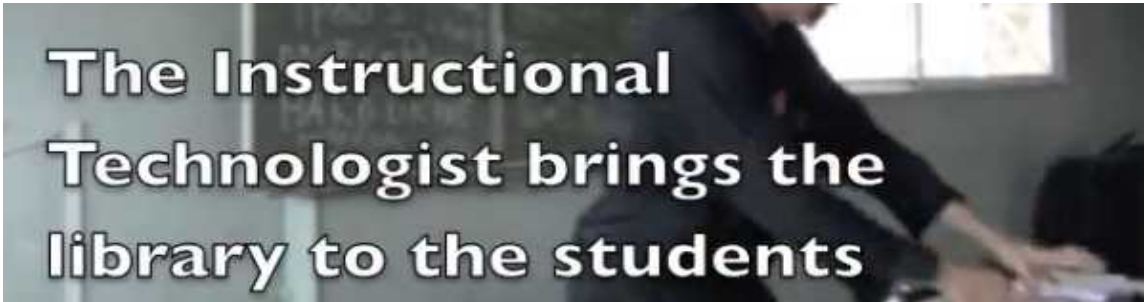


Here's part of a comparison (pros and cons) of ebooks by Reinier Cruz.




Myriam's presentation about tape recorders was delivered in the "shy" mode. The presenter talks behind the camera and the camera points at the board.





**The Instructional  
Technologist brings the  
library to the students**



**The participants received a  
USB pen drive with 4 GB of  
videos and articles**

### Day 3

#### Description and demonstration of the Flipped Classroom

**The focus of the day was on how to present information before the class meeting. The goal is to have the students absorb information outside the class and use the class meeting to discuss and analyze the information.**

**One method is to record lectures.**

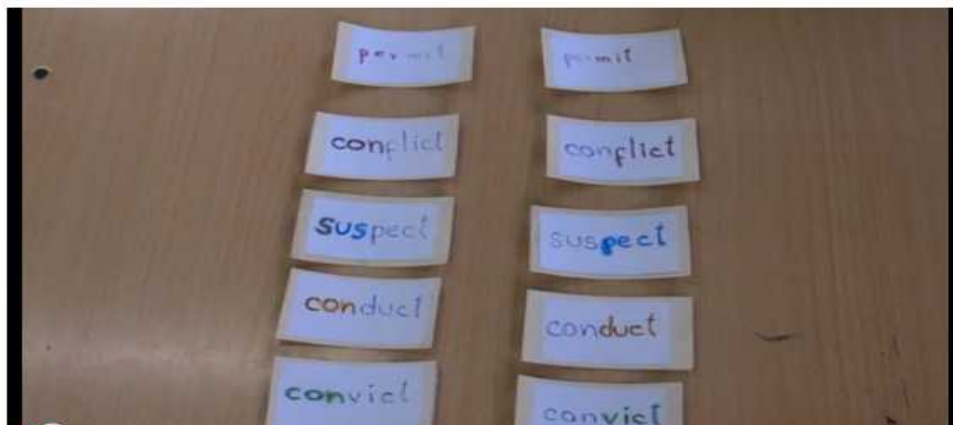
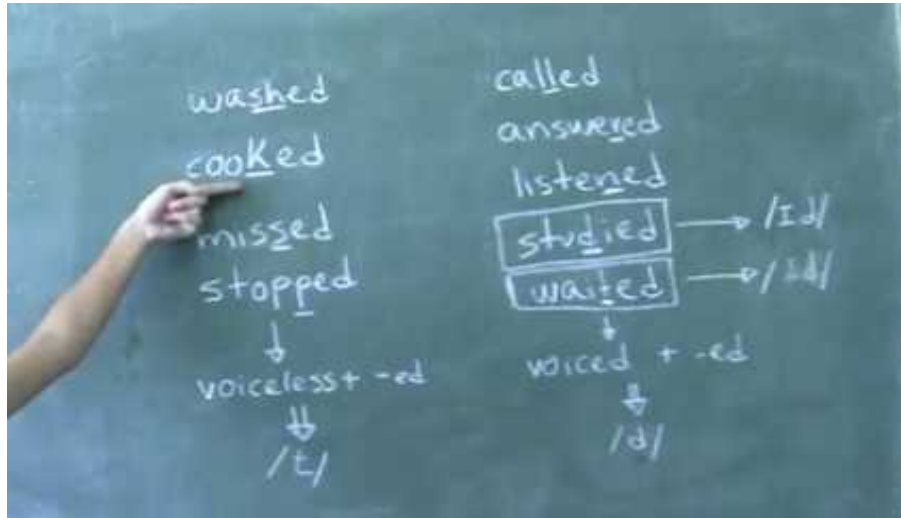


The email addresses for Enrique Gonzalez and Dennis Yuzenas were placed on the board. These mentors are recommended for giving excellent workshops.

## Day 4

### The Participants made videos (for their flipped classrooms)

Here's an example of a video lecture about pronunciation



One of the participants arrived on the fourth day with three lessons ready for video recording. This video compares the pronunciation of verbs and nouns. For example “he is a **SUS**pect” and “I sus**PECT** that he is guilty.”

The flipped class included a demonstration of using a video to convey information. The participants arranged the cards to match the format that was shown in the video.



Profesor Rosa Jordan [rosa2@flex.uh.cu](mailto:rosa2@flex.uh.cu) and Roberto Espi [respi@flex.uh.cu](mailto:respi@flex.uh.cu) after completing a "Flip the Classroom" activity Thursday, 11 April 2013

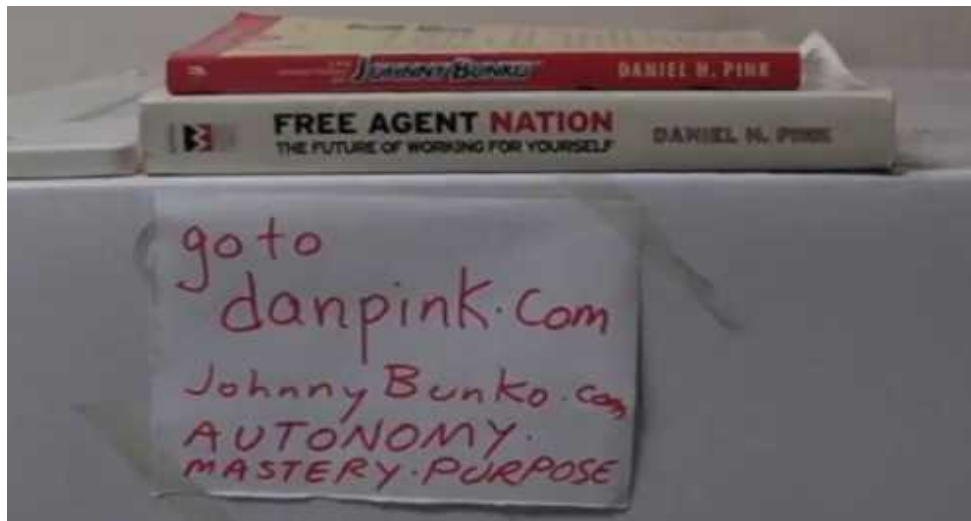
The smiles of victory.



## Preparations for the next two parts of the CAIT Course

### Part 2 Projects and Digital Portfolios

To prepare for the next stage of the Certificate of Applied Instructional Technologies, participants can read sections of books placed at the Department's "Dan Pink Library," located in the administrative office of the FLEX department.



Titles include Malcolm Gladwell's works, Thomas Friedman's *The Word is Flat* and *Hot Flat and Crowded*, and *The Big Picture: Education is Everyone's Business* by Dennis Littky and Samantha Grabelle (planned for translation into Spanish and Arabic).



### Part 3 Posters

# The student is the class



Dennis Yuzenas (WhatDoYaKnow.com) encourages his high school students to bring their computers into his classroom to do projects, search the Internet and collaborate in teams.

Transform-Education.com • TransformTeaching.org  
EdutechFoundation.net • abc.TheStudentsTheClass.com

Here are some examples of posters that were excerpted from the blog of Dr. Abraham S. Fischler, author of phrases like “the student is the class” and “science is a verb.”

# Science is a verb



A science lab is a place for action,  
not just memorization  
#scienceisaverb

Transform-Education.com • TransformTeaching.org  
EdutechFoundation.net • abc.TheStudentsTheClass.com

### *Let's pause to remember Aaron Swartz*

The goal of the certificate program is to prepare teachers to apply technology to aid learning.

One of the key behaviors of an applied instructional technologist is the use of a USB flash drive or “pen drive.”

Mario Llorente walks around with the slogan “Got pen drive Internet?” He wants to emphasize the power that one person has to present portions of the Internet to another person.

Got pen drive  
Internet?

One of the necessary parts of sharing information is having access to information. A controversial figure in the effort to make information more available to students is Aaron Swartz. The following section describes a part of the history of the Internet that might be easily overlooked.

<http://theindependenteducator.blogspot.com/2013/05/two-suggestions-for-principals-1-give.html>

## **Proposed: The word "terabyte" can also be called a "Swartz" in tribute to Aaron Swartz ("swore tz").**

Here is an excerpt from an article about Aaron Swartz:

*What the [aaronsw.archiveteam.org](http://aaronsw.archiveteam.org) site is, in fact, is a differently delivered payload: a poetic thought exercise in the worldview that Aaron showed in his outlook. For some people, the fear of violating a terms of service, even one as small as this, now holds a certain weight as, in some small way, it led to a man's suicide. Perhaps someone will pause before clicking, consider their actions, worry about the consequences. The fact that is even the case is a small part of the real message of the site: that **Aaron was a tireless crusader in causes of openness, freedom and expression, and when he crossed boundaries, each was done without thought to profit or to harm but to leave the world better than he had found it.** Which he has.*

[See this opinion piece](http://chronicle.com/blogs/profhacker/civil-disobedience-the-aaron-swartz-memorial-jstor-liberator/45397)

<http://chronicle.com/blogs/profhacker/civil-disobedience-the-aaron-swartz-memorial-jstor-liberator/45397>

Proposed: The word "terabyte" can be called a "Swartz" in tribute to Aaron Swartz.

Example: "I'm going to bring you two Swartzes of videos."

## **FAQ #1: Why do you call it a Swartz?**

Because Aaron Swartz should be remembered.

- a) Some young people might get the same idea that Aaron had and they might believe that suicide is an option. Let's tell his story and remind young people that "we have options."
- b) It's nice to remember someone who tried to make the world better. In this moment, you can focus on how Aaron lived (rather than how he exited).
- c) Let's be kind to people who might be tempted to make fun of "odd" people who are "different" from most people. "Harmless" jokes can put pressure on people who are sensitive to public opinion. (If we're laugh at someone, we might want to get in their shoes and see what the situation looks like from their point of view.)

Example: type [nurse committed suicide katherine australian radio](#) and see what appears. Let's think about how [our pranks](#) and "punking" and [attempts to get a laugh](#) at another person's expense might nudge or pitch that person over the edge.

- d) Let's be kind to people who (with good intentions) might be tempted to share "too much" of other people's words and ideas.

## **FAQ #2: Why did you choose "terabyte" as the suggested unit to link to Aaron Swartz?**

Because in today's world, a terabyte is about 250 movies, each 4 Gigabytes. A pile of 250 DVDs might get someone's attention. "Oh, I see you have about a Swartz of movies on your wall." That might push the listener to ask, "What's a **swore tz**?"

## FAQ #3: How do you pronounce his name?

I think it is not pronounced Schwartz ("black" in German). *Sh wart z* is not accurate. It appears to be *Swar tz* like "Swore tz" ...

This piece first appeared in a blog post:

<http://theindependenteducator.blogspot.com/2013/04/proposed-word-terabyte-can-also-be.html>



*Aaron Swartz* at a Creative Commons event.

Source: [http://en.wikipedia.org/wiki/File:Aaron\\_Swartz\\_profile.jpg](http://en.wikipedia.org/wiki/File:Aaron_Swartz_profile.jpg)

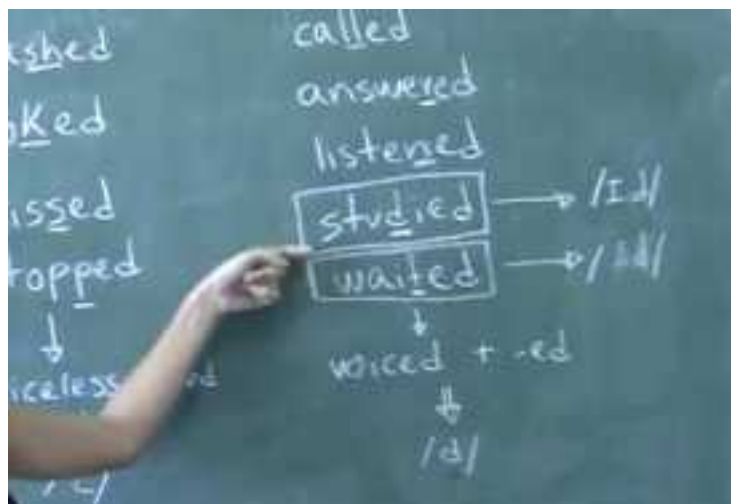
## **Presentations by Participants**

These presentations show the level of engagement and participation by the audience.



One of the methods for working with shy people (who don't want to show their faces to the camera):

- Interview the person
- Write key phrases on the board.
- Then turn on the camera and point to the key points.
- The shy presenter talks about each headline.



Here is a screenshot of a video from a “flipped classroom” presentation  
<http://www.youtube.com/watch?v=5r3-JpvAzKY>

This certificate program will grow to cover two more parts: Posters and “Projects and Digital Portfolios.” The guardian of the library (which is needed for the next phase of the CAIT program) is Mercedes Vázquez, shown here. Look for the pile of books near her desk.



There are more scenes from the interview with Mercedes Vázquez:  
<http://www.youtube.com/watch?v=Ur9Wczw-Mms>

We have traveled a long way.

We started with “a list of technology.”

We thought about ways to use the technology.

We discussed the procedures used in the USA with the “flipped classroom.”

Then we created procedures to use technology in schools without easy access to the Internet.

If you still think that this book is about “technology in classrooms,” then we have covered only 10% of the topic. If you did not cut out the posters, then we need to talk about the hidden ideas inside this book.

I hope we have spent most of our time discussing **“how do we change the core beliefs of our students so that they can use technology better?”**

I hope you have changed some of my core beliefs, too.

Please send me your ideas. I hope you will look at this book (with its missing pages). If you write to me with your questions, comments, suggestions and links to your , then I can send you the updated version of this book when it is ready....

Steve McCrea

[TheEbookman@gmail.com](mailto:TheEbookman@gmail.com)

GuideOnTheSide.com

Transform-Education.com

TransformTeaching.org

Let's repeat what we read when we began this workshop:

Unfortunately, to most people, teaching is the giving of knowledge. What are you going to tell the students?

What is your expertise? But **teaching is really about bringing out what's already inside people.** Dennis Littky, MetCenter.org

***Let's use technology to bring out what's inside our students.***